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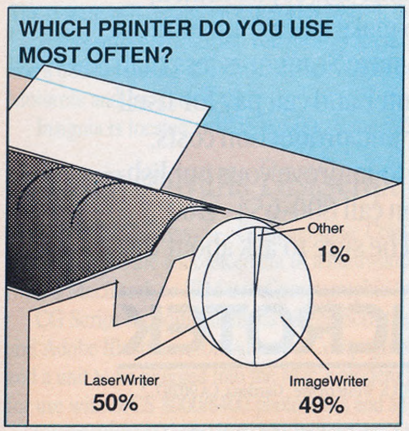


Source: July 1987 Creative Strategies/MacWEEK

HyperCard's roots yield key to its future

BY RUSTY WESTON
MacWEEK Staff

CUPERTINO, Calif. — Just as Bill Atkinson says humans link thoughts in scatter-brained ways, his software child, HyperCard, has a scattered past.

Its future is in becoming the standard interface for Mac users who want to customize links between heretofore segregated media: text, sound, graphics, animation and storage disks.

Nevertheless, it's the roots of HyperCard that provide insight into Apple's quest to empower users and expand microcomputing possibilities.

In the zoological sense, HyperCard is not strictly a new beast. Its ancestry runs as far back as the dawning of the computer age, and its contemporary relatives include Atkinson's Rolodex program, Xerox's Notecards, Owl International's Guide and Quickview Systems' Zoomracks. Unlike those applications, however, HyperCard came out of the think tank ready to swim, walk and drive.

And fly.

Thanks to Apple bundling HyperCard with new Macs, the product will likely set

See HYPERCARD, Page 21

Apple scanner to show at Seybold

BY ABIGAIL CHRISTOPHER
MacWEEK Staff

CUPERTINO, Calif. — Apple will roll out a low-cost 300-dpi scanner at the Seybold Desktop Publishing Seminar and Conference next week, plugging a gap in the company's desktop-publishing offerings, according to several sources close to the company.

The flatbed scanner is driven by the Canon CS-220 engine, supports 16 levels of gray (4 bits per pixel) and is expected to be priced at approximately $1,500 ($2,000 with software).

Filling a growing publishing need, the scanner imports gray scale, TIFF (Tag Image File Format) and MacPaint images into page-layout and presentation-graphics programs, said the sources.

The scanner will compete with the similarly equipped Hewlett-Packard ScanJet for the Macintosh, announced Aug. 3, that is priced at $1,495 stand-alone and $595 additional for the Apple Macintosh interface kit, including scanner software.

But Apple is expected to provide scanner software that will exploit the 4-bits-per-pixel

See SCANNER, Page 21

'Swift' 68020 LaserWriter set for '88

BY ABIGAIL CHRISTOPHER
MacWEEK Staff

CUPERTINO, Calif. — Apple is developing a high-speed 68020-based 300-dpi LaserWriter for release in the first quarter of 1988, according to several sources close to the company.

The new 32-bit LaserWriter will run at 16 MHz and print approximately 12 pages per minute, depending on image complexity.

The printer will be configured around a new, as yet unannounced Canon engine.

The price of the printer has not been determined, but a $6,000 to $7,000 range is being discussed by Apple's marketing staff, according to the sources.

The new printer, code-named Swift, is one of a new crop of fast PostScript laser printers that will appear in 1988, say observers.

Many will be configured around a 68020-based printer controller board from Adobe Systems Inc. of Palo Alto, Calif., code-named Atlas.

The 68020 printer will not be the only option for users who want to speed up their LaserWriter output. PostScript accelerator boards for the LaserWriter and LaserWriter Plus are available for approximately $2,000 from companies such as Olduvai Software of Coral Gables, Fla.

"The new LaserWriter will be well-received in the production environment and in the work group. This kind of printer speed will do well in corporations," said Ed Wong, a research analyst in electronic-publishing services for Dataquest of San Jose, Calif.

"But relative to the LaserWriter and LaserWriter Plus, that [$6,000 - $7,000 estimated cost] sounds pricey. It depends on what markets Apple is going after with this," he said. ■

Apple plans new 'spinouts,' says Sculley's book

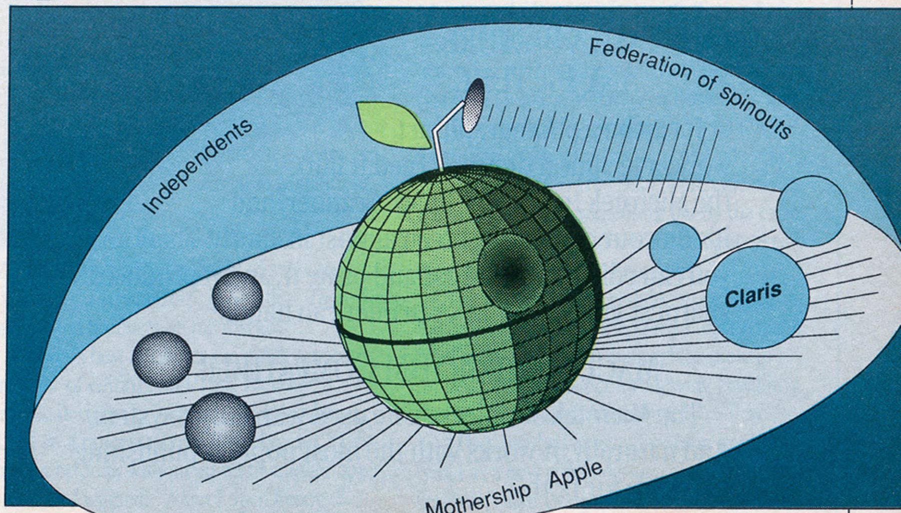
BY RUSTY WESTON
MacWEEK Staff

CUPERTINO, Calif. — Apple plans to spin off more companies that will join Claris Corp. in a "federation" of Apple satellites, President John Sculley says in his new book. The strategy will allow Apple to diversify without becoming a massive bureaucracy.

The new companies, called "spinouts," are likened by Sculley to specialized planets orbiting around "mothership" Apple.

Sculley's "Odyssey: Pepsi to Apple" will be published Oct. 15 by Harper & Row and serialized in a September issue of Fortune magazine. Co-authored by John A. Byrne, the book is expected to become a best-seller, with an initial hardcover printing of 100,000.

See SCULLEY, Page 21



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moves. Rob Hawley and Val
re also forces to be reckoned
watch out, pros.
men's slalom course provided
mpetition and lots of excite-
the crowd. Among the Class 1
sailors, local Bruno "Jaws"
er and Greg "XSL" Ecker dom-
the event with blurring speeds.
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lalom course shortly before the
all but one racer, Mike Dunmire of
ura, missed the change. Head judge,
t Drake was kept busy after the
nt handling protests.
Women's Slalom
Kristy Henderson, of the XSL team,
sped away with the Women's slalom,
followed closely by Jann Noyes, who's
looking stronger at every competition.
Holly Boursier placed third.
In the Master's slalom class, John
A competitor warming up for the the men's slalom class.
Wagner left the rest of the class in his wake, but well-known Billy Ferguson
seemed to be having an off day - just not up to his usual speed, literally.
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LATE NEWS

Red Ryder upgrade available only by mail order

BEAVER FALLS, Pa. — Red Ryder 10.0, a long-awaited upgrade to The FreeSoft Co.'s popular telecommunications program, is set to ship this week.

Unlike previous versions, which were distributed as shareware, the new release will be available only by mail order from the developer for $80.

To upgrade, registered owners must send a check for $20 and their Red Ryder master disk with the exact name under which they registered. "10.0 Update Request" should be written in the lower-left corner of the envelope and circled.

The FreeSoft Co. is located at 150 Hickory Drive, Beaver Falls, Pa. 15010; (412) 846-2700.

Insignia develops DOS emulation program for Mac II

SAN FRANCISCO — There's more than one way to emulate an operating system.

Insignia Solutions has developed a DOS emulation software program for the Mac II called Soft PC for the Mac. The $595 program will only run under A/UX, Apple's UNIX for the Mac II, and not under the standard Mac operating system. The shipping date for Soft PC is tied to the shipment of A/UX, which will not ship until the beginning of next year.

Soft PC will allow Mac II users to run UNIX programs concurrently with DOS applications. The system will require an external 5.25-inch disk drive to run DOS applications.

A Motorola 68020-based computer, such as the Mac II, provides IBM PC XT performance, and a 68020 running at 25 MHz offers PC AT performance, according to tests conducted by Motorola and Insignia.

Insignia is located at 1225 Post St., Suite 625, San Francisco, Calif. 94109; (415) 771-7001.

Program converts PostScript to Compugraphic commands

WILMINGTON, Mass. — Compugraphic Corp. jumped into the PostScript typesetting market last week with the announcement of a hardware/software package that converts PostScript files from a Macintosh or IBM into Compugraphic typesetting commands.

CG Script supports hundreds of PostScript application packages, including PageMaker, Word and Adobe Illustrator, for output on Compugraphic machines. The package, including software and a unit to be plugged into the Mac's modem port, is set to ship in January and will cost $9,995 for use with MCS 8000/8400 photo units and $12,995 for CG 9600/9700 Imagesetters.

Compugraphic Corp. is at 200 Ballardvale St., Wilmington, Mass. 01887; (617) 658-5600.

Sharp to color the peripherals market

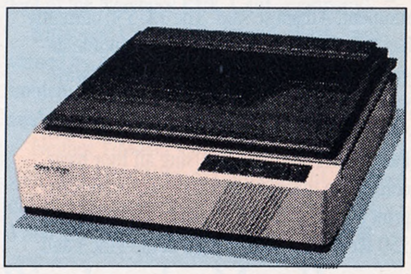
BY CLIFF LEHMAN
MacWEEK Staff

MAHWAH, N.J. — Following the path blazed by its recently announced color scanner, Sharp Electronics Corp. will introduce two color printers and an erasable optical disk in the first three months of 1988, according to Mark Albanese, product manager for Sharp.

The JX-550 Thermal Printer, a 300-dpi color-thermal transfer printer, is tentatively priced at $8,995.

Mac compatible, the JX-550 is intended for color proofing and color separations on company magazines and newsletters, as well as for design and engineering applications, Albanese said.

The machine will offer yellow, magenta, cyan and black color ribbons that combine for the seven printing colors of black, magenta, yellow, cyan, red, green and blue. The machine will come with 4 Mbytes of memory — 1 Mbyte for each of the four basic colors.



The JX-450 Color Scanner precedes two new printers.

Quark Inc. of Denver has promised to support the printer, and Sharp is working on sign-

See SHARP, Page 4

Apple purchases a piece of Sybase

BY RUSTY WESTON
MacWEEK Staff

BERKELEY, Calif. — Although it will take a year until a custom-tailored Mac version of Sybase Inc.'s relational database management system for on-line transactions hits the market, Sybase has found a strategic new partner in Apple.

Apple's Strategic Investment Group, along with a few investment banks, has purchased a minority equity-investment in the 3-year-old Berkeley, Calif., software company. Apple representatives would not say how much of the $3.3 million venture Apple purchased or what percentage of the company is owned by Apple.

"From Apple's viewpoint, this is very important to our customers in large, multivendor environments," Marianne Lettieri, Apple's corporate public relations manager, said. "Sybase provides a software engine for distributed database applications in a multi-user environment."

"Our database technology [combined] with the Macintosh architecture can become a key to meeting the needs of tomorrow's networked environments," said Mark Hoffman, Sybase president. "We believe our technologies are complementary and our companies share a vision of micro-to-mainframe connectivity."

See SYBASE, Page 4

Target aims high with Scoop

BY ELINOR CRAIG
MacWEEK Staff

MIAMI — Target Software Inc. is aiming its new page-layout program at the high end of the market even though $495 is a mid-range price for a desktop-publishing program.

"Scoop achieves tasks that traditionally were done only by typesetting workstations," said Sal Patalano, CEO of Target Software.

But developers and analysts are questioning why the first upgrade is scheduled only one month after the company's delayed release of the product.

"If all that Target promises works, it sounds like a good product," said Julie Desrosiers, an analyst with CAP International in Marshfield, Mass.

"Target has a long road ahead of it," said Mike Solomon, vice president of sales and marketing at Aldus Corp. in Seattle. "There are many good products on the market."

Scoop's best attributes are quick processing and ease of editing, said Tom Weinkle, a graphic designer in Miami. "Scoop runs in RAM so it processes very fast," he said. "Editing can be done without going to another application or document. When I open Scoop, I don't have to bother with anything else."

Rotating text and graphics can be done with increments of one degree. And type can be stretched from 12 percent to 800 percent with an automatic slanting of margins.

The program is easy to use and will be PostScript compatible, including clones, according to Dawn Wetterling, marketing director at Target Software.

Although Scoop was well received at the Mac Expo in Boston last month, Target Software had few copies of the program to sell, according to David Schechter, an industry analyst with Homans McGraw in Boston.

"Their credibility is at stake," said CAP's Desrosiers. "They told us their upgrade was coming in eight to 10 weeks, which means they wanted to get something out by the expo. It will be interesting to see how long it takes them to get their upgrade together."

The key features scheduled to be added in the new version are TIFF compatibility, batch spell checking, search and replace (now in a limited version), and color viewing capability for the Mac II, said Wetterling.

"They just had to get something immediately out as a new contender in a challenging marketplace," said Craig Cline, associate editor of the Seybold Desktop Publishing Report. ■

SHARP

Continued from Page 3

ing up more software support in the Mac environment, Albanese said. The JX-550 currently has no provisions for a page-description language, but, Albanese said, Sharp "is always looking at that area."

The JX-550 prints at three quality levels: Fast, Fine I and Fine II. Using all four basic colors, the machine will take 60 seconds to print a page at the Fast quality level; 90 and 150 seconds to print a page at the Fine I and Fine II levels, respectively.

The JX-450 Color Scanner, to be introduced this month, according to Albanese, scans at 300 dpi and is list priced at $5,995. With a Mac interface board from National Instrument of Austin, Texas, that costs between $495 and $550, the scanner is compatible with the Mac Plus, SE and II.

The scanner can be set to scan 24 bits per pixel for 16 million colors; 8 bits per pixel of gray for 256 gray levels or 1 bit per pixel for line art. It also uses an edge detection function to enhance the sharpness of line art.

The third product, the JX-725 Ink Jet Printer, uses the same four basic colors as the JX-550 and mixes them to produce red, green and purple.

The 180-dpi printer is priced at $1,395 and takes four minutes to deliver a full-color image over an 8.5-by-8.5-inch area. The JX-725 will print at 23 cps in magenta, yellow and cyan and 46 cps in black.

Sharp also plans in the first three months of 1988 to introduce an optical disk that can be erased and rewritten repeatedly, said Albanese.

The 380-Mbyte Magneto-Optical Disk is priced at $6,500 and will include cables and software for either the Mac or IBM environment, Albanese said.

Albanese said Sharp sees the Magneto-Optical Disk as a very large archival device for image databasing and storage for graphic artists, desktop publishers and others.

"The Magneto-Optical Disk can be written on the same exact spot 1 million times," Albanese said.

Sharp Electronics can be contacted at P.O. Box 650, Sharp Plaza, Mahwah, N.J. 07430; (201) 592-9500. ■

SYBASE

Continued from Page 3

The Sybase system's structured query language also will pave the way for Macs to talk to IBM mainframes — something corporate and government users have been pining for.

Dan Eilers, director of Apple's Strategic Investment Group, said, "We don't pick successful companies, we develop them."

Sybase is the group's fourth investment this year, joining Forethought Inc., maker of PowerPoint desktop-presentation software; OSI software vendor Touch Communications; and Chromaline, a start-up in Los Altos, Calif., which has chosen to keep its technology proprietary.

Eilers said the Apple group plans to invest in four or five such ventures each year.

Previously, Apple had said it would postpone purchasing horizontal applications software until its software spinoff, Claris Corp., becomes independent. But the company and Sybase say that DataServer and DataToolset are system, rather than application, software.

"There should not be a conflict with Claris because Claris is fundamentally doing applications software," Eilers said.

"It is a tool for horizontal applications," said Richard Scheffer, Sybase's manager of marketing communications. "We sell it to value-added remarketers who develop applications for specific vertical market segments and who market those applications within those market segments."

According to Esther Dyson, editor and publisher of the industry newsletter Release 1.0, Apple will benefit from the Sybase deal. "Sybase is the most interesting thing to come along in relational databases," Dyson said.

Sybase features Trigger, which allows the user to monitor important data changes in any application. For example, when a $25,000 sale is made, an electronic message may be automatically sent to a sales manager.

"We see people using Sybase in a network of Macs or [with] a Mac tied into large computers," said Scheffer.

He said the company's products, DataServer and DataToolset, are currently available on Digital Equipment Corp.'s VAX computers and Sun Microsystems Inc.'s workstations.

Scheffer predicts the market for Sybase will grow to $100 million in a few years.

"They are a hot little relational database company," said Michael Orsak, an Apple analyst with Robertson, Colman & Stephens in San Francisco.

Sybase is located at 2910 Seventh St., Berkeley, Calif. 94710; (415) 548-4500. ■

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...read Mac

ImageWriter LQ requires new routines

BY ELINOR CRAIG
MacWEEK Staff

CUPERTINO, Calif. — The fancy paper-handling abilities of Apple's new ImageWriter LQ have yet to be tapped, according to officials from several publishers of word-processing programs.

That is because application programs need a new printer driver to make use of the feature, but some developers said they were not informed of this requirement.

The LQ has three paper bins to choose from. This means letterhead can be in one bin and other paper in another. The ImageWriter LQ requires that applications send the document as a whole so that the printer can organize which page prints on what paper. Currently, each page is sent over one at a time. The LQ reads this as a series of first pages.

Applications will need a new print routine to access the multiple-paper-bin option, according to Omar Khalifa, LQ project manager at Apple.

But, he said, Apple informed developers well in advance.

WordPerfect, scheduled to be released in October, will have the correct print routine — but not because Apple warned the developer.

"We stumbled across the problem because we use the LQ here," said Nolan Larsen, manager of Macintosh development for WordPerfect Inc. in Orem, Utah. "Otherwise we would not have known about it."

Ann Arbor Softworks, developer of FullWrite Professional, which is due out mid-September, also found and addressed the problem on its own, according to Phil Lipetz, president of the Newbury Park, Calif., company.

Microsoft Corp. of Redmond, Wash., was warned by Apple and will be addressing the problem, according to a spokeswoman. But she would not say when the upgrade is due out.

Neither T/Maker Co. of Mountain View, Calif., nor MindWork of Carmel, Calif., were told about programming needs for the ImageWriter LQ, said company representatives. ■

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WEEK every week.

Rival to the Mac II may arrive from Japan

BY ABIGAIL CHRISTOPHER
MacWEEK Staff

MAHWAH, N.J. — Apple competitors have yet to discover a way to clone the Macintosh, but that hasn't prevented them from borrowing some the Mac's best features for otherwise incompatible computers.

Sharp, a major player in the low-end Japanese workstation market with its $3,150 X-68000 computer, is now considering bringing this Mac II competitor to the United States, adding yet more pressure to an increasingly confusing and competitive market.

The icon- and command-driven X-68000 computer, based on the Motorola 68000 microprocessor, runs at 10 MHz and includes 16 bit planes of color and 5.25-inch disk drives. The 16-bit frame buffer provides simultaneous display of 65,536 colors and resides on the Sharp computer's motherboard as a standard feature.

By comparison, the 68020-based Mac II runs at 15.6 MHz and includes up to 8 bit planes of color. Apple's 8-bit frame buffer for the Mac II provides simultaneous display of 256 colors. The Sharp computer offers more memory than the Mac II (1 to 12 Mbytes) but less room to grow (two expansion slots).

The wrinkle in Sharp's plan is that the X-68000 runs its own proprietary operating system, making it difficult for programmers to write code for it. Basic and assembler compilers are available for it now, and more are under development.

The Sharp computer supports Genlock standard on the motherboard for television standard NTSC and PAL video output.

Apple third parties such as Computer Friends of Beaverton, Ore., and Matrox of Quebec, Canada, are developing Genlock and image-processing hardware for the Mac II. Sharp's standard monitor is 15 inches and provides resolution of 1,000- by- 1,000 pixels. The virtual-color monitor offers multiple display modes: 768 by 512; 512 by 512; 256 by 512; and 256 by 256. The Sharp monitor doubles as a cable-ready television.

The Sharp interface is Mac-like; it "is icon- as well as command-driven and supports overlapping windows, a control panel and pop-up menus," said Mark Alabanese, Sharp marketing and sales manager for peripherals.

The interface includes icons such as a trash can for deleting files, a copier for copying files and a printer for printing files. ■

Rugged Mac challenges harsh working environments

BY JIRI WEISS
Mac WEEK Staff

BILLERICA, Mass.— The Mac of steel is here, taking the Macintosh II out of the office and into the harsh factory and lab environments until now dominated by minicomputers, industrial PCs and controller boards.

The rugged model of the Mac II, Automatix Inc.'s AI 90, is designed for analyzing data, controlling laboratory instruments and running a computer vision system to control an assembly line.

Automatix, an Apple value-added reseller (VAR), has rearranged and made the insides of the Mac II modular to make it easier to service and small enough to fit in a steel box about 20 percent larger than a standard Mac II.

The steel enclosure protects the AI 90 from electromagnetic and radio wave interference. The computer is rated for 10- to 50-degree Celsius temperatures and can be mounted flat against a wall or on a standard 19-inch rack used for electronic equipment.

"The Macintosh will win out in the factory for the same reasons it is winning in the office: ease of use," said Joseph Campbell, director of Automatix's industrial control division.

The cost of training in factories is higher than in offices, and it's harder for a product to gain acceptance, Campbell said. "People who traditionally have been unwilling to interact with personal computers can now do so without having to learn a cryptic set of commands."

The AI 90 CPU sells for $7,900 with 1 Mbyte of RAM and a floppy drive. Options include a $142 standard Apple keyboard, a $2,800 20-Mbyte hard disk and a $989 monochrome monitor and video card.

Automatix plans to release an industrial monitor within the next few weeks with a filtered fan system and the same shielding and grounding as the AI 90, Campbell said.

The AI 90 constantly monitors its own internal temperature and power supply so the machine can be shut down without losing data. After a power outage, the machine comes on line automatically. A power amplifier lets users plug in an external speaker.

"You can have a voice annunciator telling the user on the factory floor what's wrong," Campbell said.

While the AI 90 can be used to run all Mac II software, Automatix said it expects the AI 90 will be used on the factory floor, primarily as a dedicated machine. "The extra bonus will be that the data captured by AI 90 can be used in other applications, such as spreadsheets and graphics programs," Campbell said.

The AI 90 runs a number of existing applications, such as National Instruments' LabView, an instrument-simulation program that makes the Mac act like an oscilloscope, for example, or statistical process control from Applied Statistics Inc. of St. Paul, Minn., used for sampling products coming off an assembly line, Campbell said.

But industrial automation applications await development of an add-in, programmable controller board, said David Ferris, a manager of systems engineering for the automation division of Westinghouse in Columbia, Md.

"The AI 90 is a good first step. But there's still a lot more work to be done," Ferris said.

Controller boards are specialized computers that control robot arms, turn on valves, check sensors and sometimes control hundreds of processes in parallel, he said.

Robert Flisik, general manager of Multicon Inc. of Cincinnati, said he hopes the AI 90 will become a general platform that will replace these boards. "You'll see standard boards that will plug into the AI 90, which will give it a number of functions," Flisik said.

Automatix Inc. is located at 1000 Tech Park Drive, Billerica, Mass. 01821; (617) 667-7900. ■

COURTESY AUTOMATIX INC.

The AI 90 is an industrial-strength Mac II designed to withstand the rigors of factory and lab environments.

Deneba files suit against former marketing partner Target

MIAMI — One month after terminating its marketing agreement with Target Software, Deneba Systems has filed suit in Dade County, Fla., against its former partner.

The complaint said, "As a direct result of the breach by Target, Deneba has incurred damages of at least $157,000 for sales through April 1987."

The complaint asks for additional damages of "an estimated $30,000 for sales through May 1987 and $7,500 for the failure of Target to repay Deneba for purchases of Target trade.

"Additionally, Deneba has incurred special damages as a consequence of Target's breach of its publishing contract due to delays incurred and interruption of marketing of its product before it could resume the sale of its product line."

Target began selling its Scoop desktop-publishing software at Mac Expo in August.

Target and Deneba would not comment on the legal action. ■

Jasmine cuts hard drive prices

SAN FRANCISCO — In the face of a barrage of storage products hitting the market, Jasmine Technologies Inc. reduced the price of its Direct Drive 160 external hard-disk drive by $600.

The 19 percent cut puts the price of the drive at $2,899, down from $3,499.

Jasmine also has expanded its line with the introduction of the BackPac 40-Mbyte drive, priced at $1,299, and a 5.25-inch, 10-Mbyte removable-cartridge system that sells for $999.

Jasmine is located at 555 De Haro St., San Francisco, Calif. 94107; (415) 621-4339. ■

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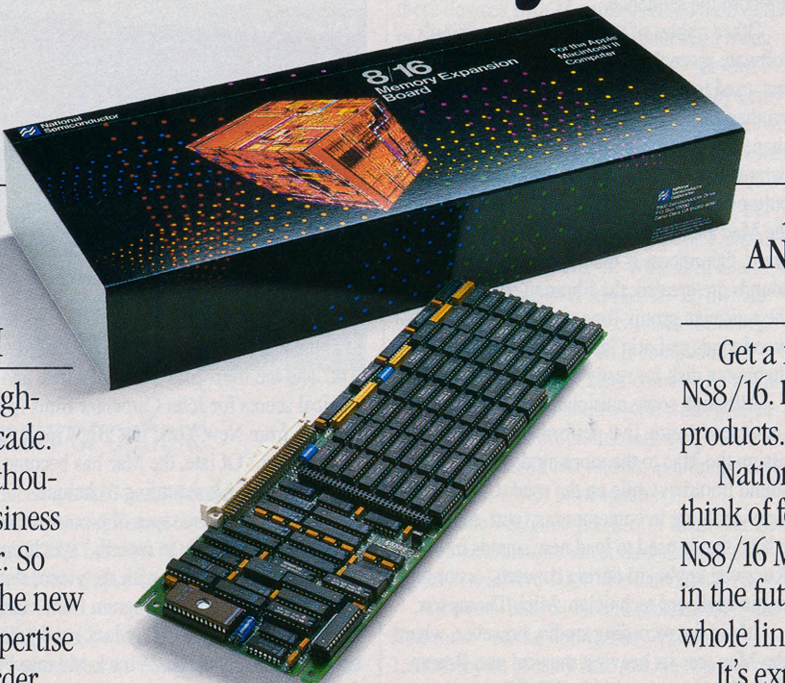

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Play it again, Mac

Computers contribute to the bass line and the bottom line

BY STEVE CUMMINGS
Special to MacWEEK

One of his Excel spreadsheets keeps track of an inventory of high-tech business machines, instantly reporting changes in their value for tax and insurance accounting. Another logs his professional time and calculates his accounts receivable. He prepares his business correspondence with MacWrite, bills his clients on forms drawn up in SuperPaint and records his appointments with SideKick.

Like many businessmen, David Rosenthal has discovered the Mac. But he is no lawyer or import/export entrepreneur. He is Cyndi Lauper's keyboard player, a musician who performed on her recent world tour and whose work will be heard on her next album. And as is typical for many contemporary electronic musicians, the Mac is not only managing his professional life, it is an integral part of his music-making.

"Aside from all the business things I do with the Mac, I'm always using it for my music," Rosenthal said.

Those in more conventional careers will likely find some of the hardware and software tools of today's computer-equipped musician unfamiliar. Traditional musical instruments have been largely replaced by synthesizers, which create new sounds from scratch; digital samplers, which can record everyday sounds and play them back from a keyboard; and drum machines, which are laptop-size full-percussion sections. Their sounds can be uncannily lifelike, but these instruments are computers in their own right. Relying on microprocessors to create and control its sound, a synthesizer can be a sweet string ensemble at one moment, a distorted electric guitar the next and then a completely new instrument.

Connectivity came to the music industry in 1983, when instrument manufacturers agreed on a simple serial communications protocol called the Musical Instrument Digital Interface, better known as MIDI. In the simplest use of MIDI, one instrument tells another which notes or drum beats to play and what expressive nuances of volume and vibrato each note should have. But in more sophisticated applications, a musician can control an entire electronic orchestra from a single keyboard (or computer), choosing the sounds each instrument makes, adding special effects and keeping complex rhythmic patterns in perfect timing.

MIDI is the platform from which the widespread computerization of music has been launched. Once equipped with a MIDI interface, an external device that converts the modem or printer socket to a five-pin MIDI port, the Macintosh can send and receive MIDI data just as if it was a synthesizer, given the proper software.

Sequencers are to serious music software what spreadsheets are to general business computing. They allow the musician to record, store and replay a performance much as a tape recorder would but with a key difference: The recording, or "sequence," is digital MIDI data rather than the music itself. In the form of this data, the pitch and timing of each note can be independently and precisely altered, a feat that is impossible with a tape recording.

Each time the sequence is played back, the computer functions like an electronic player piano mechanism, actually playing the instruments again via MIDI. This means that the musician can play the piece with different sounds or even different instruments until the arrangement is right, without ever having to rerecord the sequence.

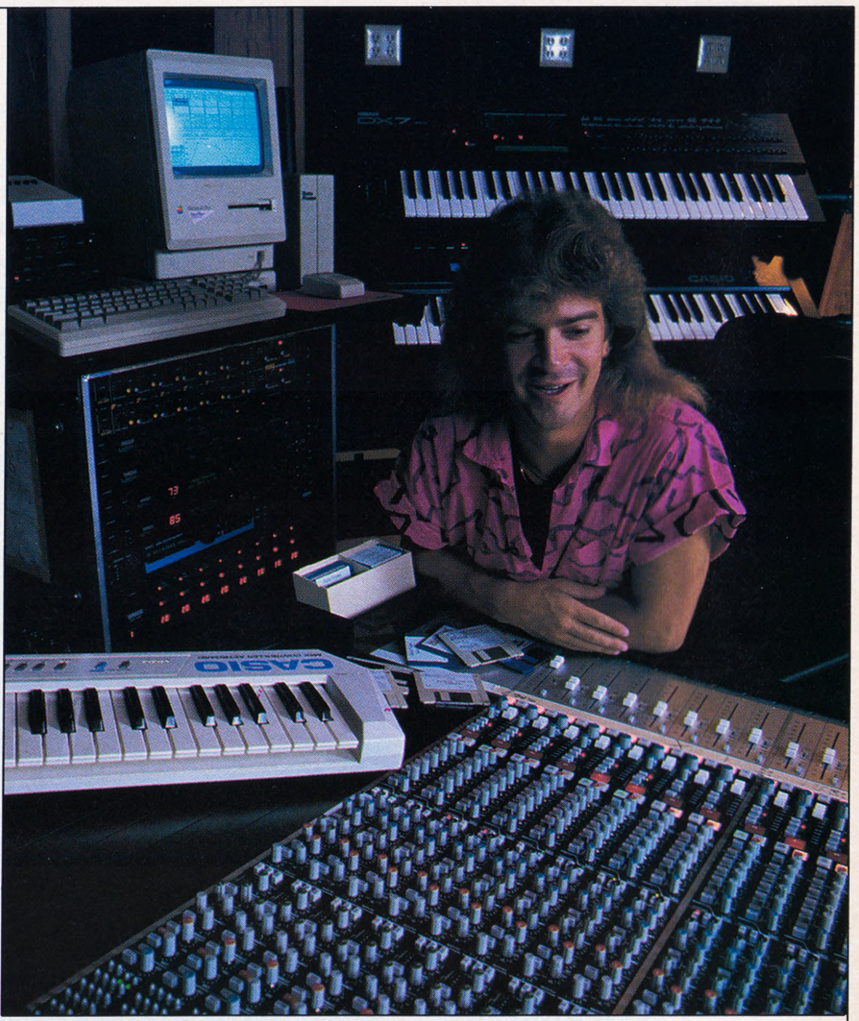
Other staples of the electronic musician's software arsenal are voice editors and librarians, used to create, alter and file collections of synthesizer and digital sampler sounds. To shape new sounds on most synthesizers, tens of parameters must be adjusted with a handful of buttons and knobs and a tiny display. But with the Mac and a full-screen voice editing program, the process is much simpler. Once the sounds are created, the librarian software lets the musician group, for example, imitation woodwinds or Latin instruments and then store them on a disk for ready access.

Although some musicians use prerecorded sequences during live performances, most assign the Mac to the more modest role of sound librarian while on the road. Chick Corea, a major figure in contemporary jazz, tours with a Mac that is used to load new sounds into his Kurzweil keyboard during concerts, according to his keyboard technician, Mick Thompson.

It's in the recording studio, however, where the Mac sees its heaviest musical use. Rosenthal often records with the MidiMac sequencer from OpCode Systems of Palo Alto, Calif, and relies heavily on OpCode voice editing and librarian software in the studio. Another OpCode user, Brian Bell, a recording engineer and consulting technician, routinely employs the Macintosh in sessions with artists like Neil Young and Carlos Santana. And the Macintosh figured prominently in the production of Corea's latest album, "Light Years," at press time in sixth place on the jazz charts.

The Macintosh gets perhaps its most demanding recording studio workout in the production of motion picture and video soundtracks for feature films and television commercials. Often working under last-minute deadlines, the composer has to create music and special effects that perfectly reinforce the mood of the visual images they will accompany. He also is responsible for precisely synchronizing the sounds with the events on the screen. With professional sequencing programs and a newer genre of software specifically intended for synchronizing the audio and visual media, the Mac is taking on a pivotal role for many film and video composers.

Working in his home studio in Glendale, in the Los Angeles area, Alan Howarth used synthesizers to create the sound effects for a host of popular films, including "Raiders of the Lost Ark" and the four "Star Trek" pictures, and the musical scores for John Carpenter films from "Escape from New York" to "Big Trouble in Little China." Of late, the Mac has become an integral part of his recording technique.


DEBRA SCHULKE

Keyboard player David Rosenthal uses his Macintosh in his music and to keep his financial records.

"I start with video tapes of pieces of the film. When I'm ready to record, I synchronize my 24 track [tape deck] with the video, start Performer (a sequencer program from Mark of the Unicorn in Cambridge, Mass.) and record simultaneously into the 24 track and into Performer," Howarth said.

"If the first take is right, it's right, and Performer is just a backup," he said. "But if there's something that I'm not satisfied with, I can modify it in Performer until it's perfect. At that point we roll the same portion of the movie and record onto tape again, only this time the computer is playing the music."

Howarth is also using a prerelease copy of Cue Sheet, software for music/video synchronizing from Digidesign of Menlo Park, Calif. "If I'm making a gunshot sound, all I have to do is go to the frame where you can see the first little spark coming out of the barrel," he said. "When we record the sound track, the software automatically fires the gun perfectly — bam!"

If the performing musician needs a large sound collection, the specialist in sound effects needs a truly huge library. Frank Serafine, another Los Angeles "sound designer" and composer with major films and commercials to his credit, catalogs more than 15,000 sound effects with Microsoft Works.

"I might have 20 different dog barks recorded in different places in my library," said Serafine, "but all I have to do is type in the word 'dog' and Works will list all of them. The amount of time I save is amazing."

Like other Macintosh musicians, Serafine often composes with sequencers such as MidiPaint from Southworth Music Systems of Harvard, Mass., but he has also integrated the Mac into the recording process itself. Using MegaMix, a hardware/software package from Intelligent Musical Devices in McCormick, N.Y., Serafine can automate the control of the studio mixing boards that funnel the music to the recording tape.

Musicians may have plenty of strictly musical tasks for their Macs, but Rosenthal isn't alone in demanding business duty from the machine as well. Keyboard technician Thompson uses MacDraft to plan the way an 11,500-pound keyboard arsenal will be set up on stage.

"The band equipment we have takes up a lot of room," said Thompson. "If someone wants to book us, we get the hall's stage dimensions and use MacDraft to see if we can squeeze everything onto the stage. We keep files of the venues that we play so we'll know how to set things up the next time."

In addition to his recording studio activities, Brian Bell is a systems integrator for the music industry. He said his Portland, Ore.-based company, Synthbank, provides clients with a Mac package that "handles spreadsheet projections of tour financials and recording budgets, work orders in the studio, distribution of royalties, everything related to the music business." Bell said sales to major names in the industry have been strong, and the company will soon be expanding to six offices nationwide.

Music is both an art form and a multibillion dollar industry. There are contradictions in that combination, but many professional musicians are finding that the Macintosh is equally valuable for its contributions to the bass line as well as the bottom line. ■

SNAPSHOTS

First accelerator board for portable Dynamac

ORMOND BEACH, Fla. — The first accelerator board for the portable Dynamac will be shipped this month by Novy Systems Inc.

Based on a Motorola 68020 microprocessor, the 16-MHz add-on board was unveiled at Mac Expo by Dynamac of Golden, Colo.

The accelerator board comes with the choice of no memory, 1 Mbyte or 4 Mbytes of memory, said Richard Smith, Novy product manager. The 68020 chip and zero memory model has a suggested list price of $1,095. A complete system that includes a 68881 math coprocessor and 1 Mbyte of memory sells for $2,895. With 4 Mbytes of memory, the price rises to $2,895, he said.

Apple has a value-added reseller agreement with Dynamac, selling the company the entire logic board, keyboard, mouse and internal floppy drive.

Novy Systems Inc. is located at 69 Ravenwood Court, Ormond Beach, Fla. 32074; (904) 427-2358.

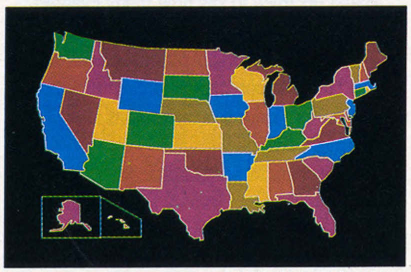
MicroMaps offers Mac users the world

LAMBERTVILLE, N.J. — Macintosh users now have the work of a professional cartographer available in software form through the use of MacAtlas from MicroMaps.

Priced at $199, MacAtlas includes clip art of more than 60 maps, including maps of all 50 states by county, the United States by state and the continents by country, including major cities.

The maps are designed in PICT format so that they can be imported into any program that accepts PICT documents, such as PageMaker, MacDraw, Cricket Draw, MacDraft and Ready,Set,Go! Since the maps are not copy-protected, they can then be resized and otherwise modified.

MicroMaps is at P.O. Box 757, Lambertville, N.J. 08530; (609) 397-1611.



COURTESY MICROMAPS

TSI accelerator card features a variety of options

EUGENE, Ore. — Total Systems Integration has introduced a 68020-based accelerator card with a variety of options, including memory upgrades, a math chip and different clock speeds.

With the TSI-020 family of coprocessor cards, a Mac 512KE or 512K with a 128-Kbyte ROM upgrade can function at Mac II speeds with the Motorola 68020 chip, said Robert Bauer, TSI technical services coordinator.

TSI-020 includes 12- and 16-MHz versions of the CPU, with 20- and 24-MHz processors available in the future. The Mac II operates at 12 MHz; typical Mac 512K and Plus configurations are close to 8 MHz.

A 12-MHz model of TSI-020 without memory costs $595. TSI offers up to 4 Mbytes of memory. The clip-on connector to the 68000 chip takes less than 15 minutes to install if the user reads the directions properly, Bauer said. "The board is upgradable in the field, using just a chip puller."

TSI-bundled software includes patches for MacWrite, digitized sound, AppleTalk and Apple's serial HD-20 hard disk all on one floppy. The same disk includes automatic diagnostics, which automatically tests the chips for response and tells the user if there is a problem. TSI offers patches for Microsoft and MDS' Fortran and Basic compilers, which allow access to the math chip.

The user need only click the program switch to select either 68000 or 68020 modes, giving users the option of operating Mac II-compatible software.

Total Systems Integration can be reached at P.O. Box 1607, Eugene, Ore. 97440; (503) 345-7395.

AEC upgrades Information Manager

BOSTON — AEC Management Systems Inc. announced an upgrade to its AEC Information Manager, a project-oriented database product, here at the recent Mac Expo.

AEC Information Manager is a program designed for project managers that reportedly combines project scheduling tasks with database and spreadsheet functions. The product can customize reports and make multiple time, date and statistical calculations. It has an alarm system that can be set up to ring at certain times during a project's duration and has a number of specialized fields and data-entry aids.

The program, priced at $495, is intended to be used to complement project-management software, such as Claris' MacProject and Micro Planning Software's MicroPlanner, said Dennis Bilowus, AEC vice president of marketing. Version 1.2 of the AEC Information Manager is scheduled to ship this month. Current users will be able to get the upgrade free, a company spokesman said.

AEC Management Systems Inc. is located at 20524 Amethyst Lane, Germantown, Md. 20874; (301) 428-3694.

Storage devices square off

BY RIC FORD
MacWEEK Staff

BOSTON — SCSI hard disks, both internal and external, were the favored method of mass storage at the recent Mac Expo, although optical storage devices played a strong cameo role.

Meanwhile, tape storage was still in a state of flux as third-party vendors struggle with development and try to get the specifications Apple will use for its long-overdue tape drive.

Micro Dynamics Ltd. of Silver Spring, Md., showed an impressive optical storage and retrieval system called MARS (Multi-user Archival and Retrieval System). MARS is a $15,000 software product that supports a variety of WORM (write once, read many times) drives and scanners. The software integrates these devices with Macintoshes and hard disks on an AppleTalk network, producing a modular system of storage and retrieval "servers."

MARS replaces microfiche for many applications and offers quick access to gigabytes of stored documents through an indexing scheme. A security module can be added for $3,000.

At the opposite end of the price scale, Personal Computer Peripherals Corp. of Tampa, Fla., announced the HD-20 WSI. WSI is an upgrade for serial-port Apple HD-20 owners who want to convert to SCSI disks for better performance or Macintosh II compatibility. The upgrade costs $295 and comes with a one-year warranty. It's bundled with a comprehensive set of utility programs, including HFS Backup, Eureka (a file finder), and ImageWriter and LaserWriter print spoolers.

Jasmine Technologies Inc. of San Francisco showed an extensive set of hard disks, including its MegaDrive 10-Mbyte cartridge drive.

A custom-built SCSI unit nicknamed "Mac Rushmore" can be configured with up to 1,200-Mbytes of hard-disk storage or up to 600 Mbytes of hard-disk storage plus a 240-Mbyte streaming tape unit. The company also is developing a 2,048-Mbyte tape backup device that uses 8mm videotape cartridges. If released, it will be in the $4,000 range.

Peripheral Land of Fremont, Calif., also introduced a 10-Mbyte cartridge drive, listed at $1,095, named the Infinity II. Another unit, named Infinity, is a 10-Mbyte floppy-disk drive that can read 360-Kbyte and 1.2-Mbyte MS-DOS floppy disks, the company said.

FWB Software Inc. of San Francisco introduced the new Hammer line of hard disks at the Boston show. Hammer drives are available in a 91-Mbyte internal configuration for the Macintosh II and in 155- and 300-Mbyte external configurations.

FWB claims double the average life span for the drives, along with significantly better performance than any other disks on the market. Flexible backup software from NuData is bundled with the drives, and FWB said unique hard-partitioning abilities will enable A/UX and MS/DOS data to coexist with Macintosh data on the disk under future Macintosh II operating systems.

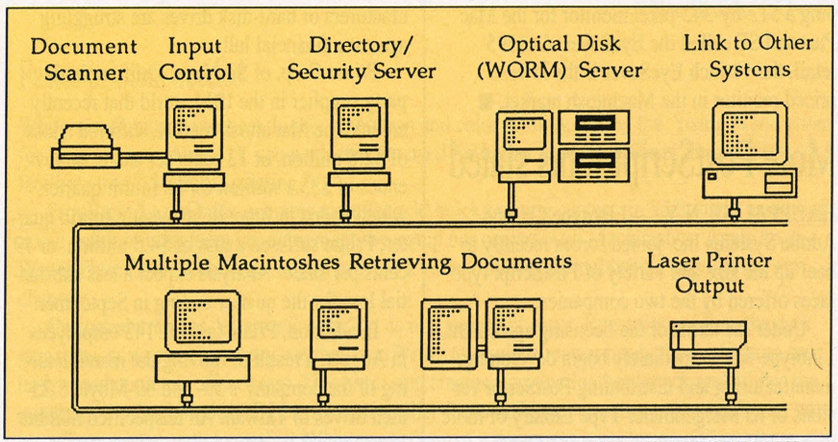
FWB also has a monster 600-Mbyte hard disk in the wings, using two of the same new CDC drives Jasmine had. However, different software drivers should provide better performance, according to the company.

Two more vendors, Racet of Brea, Calif., and CMS of Tustin, Calif., showed SCSI hard-disk drives that incorporate caching for higher performance.

After a long absence caused by financial problems, Micah hard disks were back, sold and supported by a new company, Micah Storage Systems, based in Newark, Del.

The company's line includes internal drives for Macintoshes and external SCSI drives. ■

Micro Dynamics Ltd. showed its impressive optical storage and retrieval system, called MARS, at Mac Expo.


Document Scanner
Input Control
Directory/ Security Server
Optical Disk (WORM) Server
Link to Other Systems
Multiple Macintoshes Retrieving Documents
Laser Printer Output

COURTESY MICRO DYNAMICS

FOR THE RECORD

Steve Rosenthal wrote in his last column Aug. 11, that HyperCard "can't make use of Apple's new Juggler multitasking environment." This statement has been erroneously interpreted by some as meaning that HyperCard will not run in the MultiFinder environment.

MacWEEK regrets any confusion caused by this statement. Rosenthal will expand on this topic in next week's column.

In the July 6 article, "Mac CAD products build a following at A/E/C show," Erez Anzel Software's construction-specific packages were mistakenly identified as Chius Software's. Also, it was incorrectly reported that Apple exhibited construction-specific software of its own.

Big-screen monitors becoming cheaper?

BY CLIFF LEHMAN
MacWEEK Staff

The big-buck, big-screen Mac monitor market may be headed for price reductions, according to some in the industry.

"Inevitably there's going to be price competition because of the number of vendors moving into the Mac monitor market," said Julie Desrosiers, a computer market analyst with CAP International in Marshfield, Mass. "We are beginning to see prices come down and will probably continue to see that trend."

MegaGraphics (formerly MicroGraphics) of Canoga Park, Calif., recently reduced prices on its MegaScreen series of monitors for the Macintosh by $200 per unit. "We lowered our prices because of competition and because we sold lots and lots of screens," said Diane Scott, MegaGraphics' vice president of communications. "But the entire market is becoming more competitive, so prices will drop."

MegaGraphics' MegaScreen prices range from $1,995 for the 19.5-inch MegaScreen 2001 for the Mac II to $1,795 for a series of MegaScreen SE configurations for the SE.

One new player in the market, 4SITE of Santa Cruz, Calif., is now shipping a color monitor for the Macintosh priced less than $1,000.

4SITE introduced the Machroma Color Monitor/Model C2 at last month's Mac Expo. The 640-by-480-pixel monitor by itself is priced at $895. With the board and cable to adapt it to the Mac SE, the system costs $1,400, according to Howard Pearlmutter of 4SITE.

New Image Technology Inc. of Seabrook, Md., will ship its new one-page, 15-inch monitor for $999 beginning in October, according to Joe Castricone, vice president.

ProAPP of Muirlands, Calif., is now shipping a 512-by-342-pixel monitor for the Mac Plus and SE called the EyeSaver. At $395 retail, the 14-inch EyeSaver is the lowest priced monitor in the Macintosh market. ■

More PostScript fonts slated

HAUPPAUGE, N.Y. — Linotype Co. and Adobe Systems Inc. joined forces recently to beef up the size and variety of PostScript typefaces offered by the two companies.

Under the terms of the licensing agreement, Linotype will immediately begin developing, manufacturing and distributing PostScript versions of its Mergenthaler Type Library of more than 1,700 typefaces, according to Frank Canonica of Linotype.

He said there will be more than 145 typefaces available for release by Sept. 30. The companies plan to add new typefaces at a rate of one per day when production gets up to speed, he said.

The companies will share the PostScript fonts but market the library separately to different markets, he said. Adobe will market in the desktop-publishing arena and Linotype in the high-resolution professional arena. ■

Evangelists will continue to spread Apple gospel

BY JIRI WEISS
MacWEEK Staff

CUPERTINO, Calif. — Jim and Tammy Bakker have given evangelism a bad name. So when John Sculley, Apple's president and CEO, said that as part of strengthening its third-party developer ties, Apple is expanding its evangelism group into Developer Services, is that a signal that one of Apple's prominent vestiges of the old counterculture is on the wane?

Not so, said Randy Battat, who heads the newly renamed unit. He said Developer Services is just the new name for Software Product Management, a division that was restructured following the breakoff of Claris, the Apple software company spinoff.

Evangelism is one of the four groups under its wing, Battat said. Before the renaming, Developer Services was the name of a group under Software Product Management. Now that group is called Developer Programs.

Apple nomenclature is confusing some. "Over the last few years, Apple has changed names of parts of its organization so many times you need a HyperCard stack to keep track," said Steve Nelson, director of marketing at Kinetics Inc. of Walnut Creek, Calif.

In a recent briefing to developers, given at Apple's Communications and Networking Conference in Boston, Sculley said Apple's commitment to third-party developers is being expanded in personnel and funding. There will be "more people, more projects in 1988 than ever in the history of the company," he said.

LAURA SIKES

Randy Battat, head of Apple's Developer Services.

Evangelism, it seems, is slated to grow as well. "There will be a lot more people with the title 'evangelist' on their business cards," Battat said.

Battat declined to say how many evangelists there are or how many are being added, but Apple's May 1 organizational chart lists 15. Recently the company added two more: an evangelist for desktop presentations and one for HyperCard stackware.

But there are important differences. Many of the original evangelists — Michael D. Boich, the first evangelist; Guy Kawasaki; Alain Rossman; and Kathy Schlein — were strong personalities preaching the Mac gospel to the unconverted masses. They have since left Apple. Schlein, who said she had no computer experience when she got the job right out of college, said evangelism today lacks the kind of camaraderie created by a small close-knit group that did everything from stuffing envelopes to running trade shows. "It's lost it because Apple has grown. It can't help now but cater to people who move the most Macintoshes. … The bigger the company the harder it is to keep the close ties," she said.

The word evangelism was first used for the software crusade in 1982 by former Apple Marketing Manager Mike Murray, now president of Dataline of Wilton, Conn.

Now evangelists are becoming more administration-oriented and specialized, said Heidi Roizen, president of T/Maker Co., a Mountain View, Calif., software-publishing firm. "In the early days, evangelists were helping companies to get enthusiastic; now they are channeling them into a particular area," said Roizen, who knows all the original evangelists personally.

The strategy seems to be paying off. "The staff has grown tremendously in both quantity and quality," said Gary Lord, director of software development at Blyth Software of San Mateo, Calif. "They now have a lot more expertise in the vertical market area."

Sculley's promise to expand third-party developer services and make Apple another "center of gravity" in the world of personal computers is not just lip service, said Jan Lewis, an industry analyst based in Sunnyvale, Calif. "Since [former Apple Chairman Steve] Jobs left, there has been a major shift. … In the past the machine was closed and so were their minds," Lewis said.■

Hard-disk drive market hits summer doldrums

BY CLAIR WHITMER
MacWEEK Staff

After a wave of major product introductions and a summer of heated competition, two manufacturers of hard-disk drives are struggling against a financial lull.

Priam Corp. of San Jose, Calif., a third-party supplier in the IBM world that recently entered the Macintosh market, suffered a loss of $2.8 million, or 12 cents per share, on revenues of $35.1 million for its fourth quarter, which ended in June. In last year's fourth quarter, Priam suffered a loss of $4.5 million, or 19 cents per share. Analysts expect a less substantial loss for the quarter ending in September.

In addition, Priam laid off 143 employees in August, a result of moving the manufacturing of the company's 50- and 80-Mbyte 5.25-inch drives to Taiwan. An unspecified number of additional layoffs are expected before the move is completed by the end of this year, according to Nate Kawaye, Priam's vice president and chief financial officer.

Rodime Systems, headquartered in Glenrothes, Scotland, is best known in the Macintosh world as the original supplier of the 3.5-inch SE drives to Apple.

Rodime reported a loss of $17.2 million, or $2.18 per share, for the third quarter ending June 30, compared with a loss of $442,000, or 5.6 cents per share, in last year's third quarter. Revenues, however, rose 21 percent to $29.9 million from last year's $24.8 million.

Tim Mahoney, Rodime's vice president and general manager, attributed the company's troubles to the opening of a new factory in Singapore, the introduction of three disk-drive engines and a "tremendous amount of money" being spent on repositioning the company.

But the most significant factor, said Mahoney, was this year's gradual strengthening of the pound against the dollar, since Rodime is a British company that does most of its business in the United States. Overall sales have increased 18 percent over last year, he said.

The problems of these two companies are partially symptomatic of a difficult transition period for the industry as a whole, said analyst David Claridge of Hambrecht & Quist in San Francisco. Such an adjustment phase is to be expected in any year that sees major product announcements, such as the IBM PS/2 and the Macintosh SE and II, he said.

Hard-disk drive industry stock prices began dropping about eight weeks ago with an overall decline of 35 percent to 40 percent. The big sell-offs were motivated by a general insecurity about the industry as a whole, according to Claridge. The industry average has since recovered 10 percent to 15 percent.

However, Hambrecht & Quist analysts are predicting that 1988 will be a big year, based on the assumption that the products introduced this year will start shipping in volume next year.

According to Claridge, Priam's problems have been exacerbated by an inability to design products and get them to market in time to be a viable competitor. Also, the company waited too long to move production offshore, a step most hard-disk drive manufacturers took two to three years ago, said Claridge. Nevertheless, he said Priam has "a reasonable chance" to execute a turnaround.

Priam's Kawaye said the company has two main thrusts to that turnaround strategy: a more competitive cost structure and several upcoming product offerings.

Meanwhile, Rodime has taken a combative stance toward its competitors. In March, the company filed patent infringement suits against MiniScribe Corp. and Conner Peripherals Inc. and a countersuit against IBM after Big Blue charged that Rodime's patent on 3.5-inch Winchester drives was invalid. Rodime said it alone has the patent rights to manufacture those drives, which it claims to have introduced in 1983.

Although he would not make a prediction about the results of Rodime's next quarter, Mahoney said it was a calculated decision to lump all the bad news into one quarter. ■

COMMUNICATING

John Edwards

They call me the wanderer, yeah, the wanderer. I wander around and around and around airports, hotels and courtesy bus stops.

Somehow, I don't think earlier generations had it quite as rough as we do. I don't remember my parents attending business meetings in 12 cities in 10 days. But then, they didn't live in the '80s. Lucky them.

Things could be worse, of course. At least now we have personal computers and on-line information services to help us coordinate our hectic travel plans. These miracles of technology may not vanquish jet lag, but they do allow us more time to sleep. Today, whenever I travel, a Macintosh is my co-pilot. I use my Mac to arrange flights, book hotel rooms, find restaurants and check on local customs and regulations (both foreign and domestic).

The most useful on-line travel resource is the Official Airline Guide Electronic Edition. Available on CompuServe, The Source, Dow Jones News/Retrieval Service and Dialog, the service provides current flight schedules and fares for more than 750 airlines worldwide.

Although outrageously priced (a surcharge of $32 per hour in prime time, $21 per hour in non-prime time over CompuServe's usual rates), OAG EE is convenient and can save its users money in the long run. For instance, by comparing air fares among carriers, it's possible to pocket up to several hundred dollars in just a few minutes. OAG EE also is useful for confirming prices quoted by airline representatives, travel agents and travel consultants.

Competing with OAG EE on CompuServe is TWA's Travelshopper service, which offers users access to the airline's PARS reservation system. Travelshopper's primary advantage over OAG EE is that users can book flights online. Tickets can then be picked up at a nearby travel agency or airport. However, Travelshopper's database is not quite as comprehensive as OAG's, so it's possible to miss out on a convenient flight or bargain. On the other hand, Travelshopper doesn't impose a surcharge, so it's much cheaper to use.

On GEnie, as well as CompuServe, American Airlines offers EAASY SABRE. This system carries more than 650 airlines and allows users to book flights, establish a travel itinerary and even consult a weather forecast for their destination city. Like Travelshopper, EAASY SABRE carries no surcharge.

The Source, in addition to OAG, provides First World Travel Club. Although this service doesn't feature a user-searchable database, club representatives will make hotel and travel reservations for members and confirm their bookings via SourceMail. Tickets are either mailed to members or made available for pickup at a nearby airport.

On-line services also boast several hotel/motel databases. OAG offers detailed lodging information for virtually any destination in North America, Europe or the Pacific. EAASY SABRE lets you access information or make reservations for more than 13,000 hotels and 25 car-rental companies.

The ABC Worldwide Hotel Guide on CompuServe (A to Z Hotel Directory on The Source) provides a database of more than 30,000 lodging establishments that users can search by city, hotel name, rates and other criteria. The Source also features The Mobil Hotel Guide, another user-searchable lodging database. American Express Advance, on the Dow Jones News/Retrieval Service and Compu-Serve, markets hotel/motel accommodations, travel packages and other offerings.

Travel information is another expanding on-line resource. For instance, on Compu-Serve's Travel Forum, nomads can swap sad tales and exchange travel tips. An extensive data library includes material on U.S. and international destinations. On NewsNet, The Business Traveler's Newsletter includes up-to-date information on travel companies, rates, bonus programs and other subjects. Its publisher promises the newsletter will "help business travelers smooth out their domestic trips."

And "smoothness" is what all of us all look forward to in our journeys. But despite a diligent on-line search, I have yet to uncover a service that will tell a user why an airline decided to send his socks to a destination 3,000 miles away from his feet. ■

LOUIS DUNN

TO THE EDITOR

Practice what you preach

Your most recent article about the Apple Business Forums was correct regarding the excellent attendance. Even in Denver's slow economy, I would estimate 1,300 people attended.

Yes, the wait to register initially, the wait to register for the hands-on sessions and the wait to register to win the Mac II was incredible.

Why? Because Apple doesn't use its own technology! It was absurd to have all these people using pens and pencils to fill out three forms, creating an extreme amount of duplication. No database, no network.

Quite a few remarks were overheard from people concerning the lack of organization in the registration area — specifically there was not one Mac to be seen. Apple is telling these major companies to implement the Mac for increased productivity, while they neglect to use it themselves.

Michael D. White, owner
Softek, Denver

Getting the green out

In Bill Steinberg's "Tips for using Sony, NEC monitors with the Macintosh II," (July 27) the pin configuration given for the NEC is not totally accurate. I currently have an NEC connected to my Mac II and initially it was connected as he describes in his article. However, I was very disappointed by the overall green hue of the picture as well as a general lack of sharpness.

Upon contacting NEC technical support staff, they said that more pins needed to be connected, specifically the separate sync pulse must be hooked up to prevent the overall green cast. There is no solution for the lack of sharpness. The only thing you can do is wait for Apple's own monitor (which is what I recommend). I know that Apple Link's information regarding the connection is the same as your article. The more complete connection is as follows:

NEC	1	2	3	4	5	6	7	8	9
Mac II	2	5	9	3	not connected	1, 4	6, 11	13	14

Regarding your "Window on Databases" (August 3), I must take issue with your use of John David's comments about Double Helix II. Having created and maintained a multi-user Helix system for 18 months, I have never found it to be "very slow." It is only moderately slow when all 10 users are trying to retrieve information simultaneously from the host.

I have heard of two kinds of speed-related problems with Helix:

- Having an index in an entry form and then trying to do a quick query on another field that is not the primary field of that index. Solution: Use indices only on reports.
- Subtotaling was definitely slow if you were doing calculations in large volumes of data. In Double Helix II, calculated data can now be ported as the record data is entered. The posted calculation is available immediately.

Gary L. Ziebold, vice president of production
Video Pool Inc., Chicago

Faster printers needed

While mentioning lower cost, higher resolution and color printing among the "rising expectations" for laser printers (Aug. 11), you neglected the need for higher speed PostScript laser printers to facilitate true "electronic printing."

PrintRight/LazerQuick operates more than 30 quick printing centers. In addition to using traditional quick printing/copying equipment, we equip our centers with Macintoshes, Apple LaserWriter Pluses and modems so we can provide a variety of desktop-publishing services for our clientele.

Customers transfer "electronic copy" to us in a variety of ways. Regardless of how the data gets to us, customers generally use the LaserWriter to produce master pages for duplication by high-speed copier or offset press. This extra step creates a production bottleneck and dilutes the quality of the final product. Discussions of quality focus on higher resolution, but electronic printing offers another path to quality. When every copy of a document is an "original," you have improved your publication quality without increasing the dots per inch.

Electronic printing will be the next major revolution in the quick printing industry, but it awaits the introduction of PostScript laser printers fast enough to run multiple copies of documents in a commercial environment.

Stephan Kahn, director of LazerQuick development
Graphic Information Systems Inc., Wilsonville, Ore.

Send letters to MacWEEK, 525 Brannan St., San Francisco, Calif., 94107; or MCI MacWEEK. Please include your name, title, company, address and telephone number.

Hardware and software for the business Mac.

SOFTWARE

NCP denotes not copy-protected.
CP denotes copy-protected.

Aegis Development ... NCP	
Doug Clapp's Word Tools	$42.
Affinity Microsystems ... NCP	
Tempo *(power user's macro utility)*	55.
ALSoft ... NCP	
DiskExpress *(maximize disk performance)*	27.
Altsys ... NCP	
FONTastic Plus *(advanced font editor)*	49.
Fontographer *(Laserwriter font editor)*	245.
Ann Arbor ... NCP	
FullPaint *(advanced Paint program)*	53.
Berkeley System Design ... NCP	
Stepping Out *(requires 512k)*	59.
Blyth ... CP	
Omnis 3 Plus *(multi-user available)*	call
Borland International ... NCP	
Sidekick 2.0	59.
Reflex *(information management analysis)*	59.
Turbo Pascal *(HFS compatible)*	59.
BrainPower ... NCP	
Graphidex *(DA graphics organizer)*	69.
Designscope *(electronic circuit design)*	129.
StatView 512+ *(req. external drive, 512k)*	179.
Bravo Technologies ... NCP	
MacCalc *(easy to use spreadsheet)*	79.
CasadyWare ... NCP	
Fluent Fonts *(two-disk set)*	29.
Fluent Laser Fonts *(Vols. 1-15)*	*each* 48.
Central Point Software ... NCP	
Copy II Mac *(includes MacTools)*	20.
Challenger Software ... NCP	
Mac3D *(3D graphics, CAD features)*	119.
Chang Labs ... NCP	
Rags to Riches Ledger or Payables	125.
Rags to Riches Receivables *(req. 512k)*	125.
The C.A.T. *(Contacts, Activities, Time)*	199.
Inventory Control	243.
Professional Billing	243.
Cortland ... NCP	
TopDesk 2.1 *(7 new desk accessories)*	34.
Cricket Software ... NCP	
Statworks *(statistical package)*	77.
Cricket Graph *(multiple windows)*	127.
Cricket Draw *(advanced draw capabilities)*	177.
Data Tailor ... NCP	
Trapeze *(spreadsheet, reqs. 512k)*	173.
DataViz ... NCP	
MacLink Plus *(transfer Mac/IBM data)*	159.
Digital, etc. ... NCP	
Turbo Maccountant *(GL,AP,AR,Payroll)*	262.
Dow Jones ... CP	
Market Manager Plus 1.5	159.
Dubl-Click Software ... NCP	
World-Class Fonts! *(both Volumes)*	49.
WetPaint Clip Art *(both Volumes)*	49.
Enabling Technologies ... NCP	
Easy3D *(create solid 3D objects)*	89.
Pro 3D *(3D shaded modeling)*	199.
Forethought ... NCP	
FileMaker Plus *(feature-packed database)*	159.
PowerPoint *(professional presentations)*	249.
FWB Software ... NCP	
Hard Disk Backup *(protect hard disk info)*	38.
Hard Disk Partition *(speeds up hard disk)*	38.
Hard Disk Util *(program backup)*	56.
Ideaform ... NCP	
MacLabeler *(print disk labels)*	29.
DiskQuick *(catalog floppies & hard drives)*	29.
Imagine ... NCP	
Smart Alarms *(DA reminder system)*	38.
Industrial Computations ... NCP	
Powermath *(equation solving tool)*	59.
Infosphere ... CP	
LaserServe *(LaserWriter spooler)*	65.
MacServe *(AppleTalk software)*	175.
Innovative Data Design ... NCP	
MacDraft *(new updated version, 512k)*	159.
LaserWare ... CP	
LaserWorks *(requires 512k, Laserwriter)*	$229.
LaserPaint *(requires Mac Plus, Laserwriter)*	375.
Legisoft/Nolo Press ... NCP	
WillWriter 2.0 *(prepare your own will)*	31.
Letraset ... NCP	
Ready,Set,Go!3	249.
Linguist's Software ... NCP	
Tech *(1000 different symbols)*	59.
Foreign language fonts	call
Living Videotext ... NCP	
More *(outlines, windows, & tree charts)*	158.
Lundeen & Associates ... NCP	
WorksPlus Spell	39.
Micro Analyst ... NCP	
Mac Zap *(recover crashed hard disks)*	36.
Microsoft	
Basic Interpreter 3.0 *(NCP)*	64.
Chart 1.02 *(42 chart styles, CP)*	72.
Multiplan 1.1 *(63 col. by 255 rows, CP)*	105.
File 1.05 *(flexible data manager, NCP)*	111.
Basic Compiler 1.0 *(NCP)*	119.
Fortran 2.2 *(compiler, NCP)*	169.
Works 1.0 *(integrated tool, NCP)*	189.
Excel 1.04 *(power spreadsheet, NCP)*	224.
Word 3.0 *(word processor, NCP)*	239.
Mindscape ... CP	
GraphicWorks 1.1 *(newsletters, posters)*	48.
Monogram ... NCP	
Dollars & Sense *(home, small business)*	81.
Odesta ... NCP	
Double Helix *(relational, custom menus)*	275.
Multi-User Helix *(requires 512k)*	439.
OWL International ... NCP	
Guide *(hypertext, free-form info)*	79.
Guide Envelope System	109.
Palantir ... NCP	
inTalk *(communication to emulation)*	99.
PBI Software ... NCP	
HFS Locater *(DA organizer for HFS)*	26.
HD Backup *(supports MFS, HFS)*	29.
Personal Computer Peripherals ... NCP	
HFS Backup	32.
ProVUE Development ... NCP	
OverVUE 2.0 *(power-packed database)*	149.
Satori ... NCP	
BulkMailer *(mailing lists)*	74.
BulkMailer Plus *(up to 90,000 names)*	225.
Legal Billing *(attorneys to accountants)*	385.
Legal Billing II *(full trust accounting)*	575.
Project Billing *(architects to engineers)*	445.
Silicon Beach Software ... NCP	
Silicon Press *(printer utility, 512k)*	41.
SuperPaint *(advanced graphics program)*	54.
Software Discoveries ... NCP	
Record Holder Plus *(data manager)*	45.
Software Ventures ... NCP	
Microphone 1.1 *(includes Glue™)*	119.
Solutions, Inc. ... NCP	
SmartScrap & The Clipper	41.
Glue *(creates "print to disk" capability)*	41.
State of the Art ... CP	
Electric Checkbook *(print checks)*	28.
SuperMac Technology ... NCP	
SuperSpool 3.4	49.
Diskfit *(backup & restore utility)*	49.
SuperLaserSpool	99.
Multi-User SuperLaserSpool	259.
Survivor Software ... NCP	
MacMoney *(financial planner)*	42.
Symmetry ... NCP	
Acta 1.2 *(outline/writing desk accessory)*	38.
PictureBase *(clip art manager, 512k)*	42.
T/Maker ... NCP	
ClickArt Personal Graphics, Effects, Publications, Letters Vol. 1 or 2, Holidays, Business Image	*each* 28.
Bombay, Plymouth, or Seville Laser font	46.
Write Now *(word processor)*	102.
Think Technologies ... NCP	
Laserspeed *(Laserwriter utility)*	65.
Lightspeed Pascal *(includes debugger)*	85.
Lightspeed C *(top-rated C Compiler)*	$125.
InBox Starter Kit *(CP)*	235.
InBox Personal Connection *(Mac & PC)*	call
TML Systems ... NCP	
TML Source Code Library	58.
TML Pascal *(compiler, req. 512k)*	68.
TrueBasic ... NCP	
True BASIC *(ask about special)*	59.
Algebra 1 or II, Pre-calculus, Trigonometry, 3D Graphics, Discrete Math, Probability, Chippendale utilities & Calculus	*each* 35.
TrueSTAT *(statistics)*	58.
Runtime *(create stand-alone applications)*	59.
William & Macias ... NCP	
myDiskLabeler *(design & print labels)*	24.
myDiskLabeler w/Color *(req. Imagewriter II)*	33.
myDiskLabeler w/Laserwriter option	38.
Working Software ... NCP	
Spellswell *(spelling checker)*	45.

HARDWARE

Manufacturer's minimum limited warranty period is listed after each company name. Some products in their line may have longer warranty periods.

Note: Some hardware items are available in either platinum or beige color. Please specify.

20 Megabyte SCSI Hard Drive	569.
AST Research ... 2 years	
AST Turboscan *(300 dpi scanner)*	1479.
AST 2000 *(20 MB, 20 MB tape)*	1479.
AST 4000 *(74 MB, 60 MB tape)*	3895.
Curtis Manufacturing ... lifetime	
Diamond *(6 outlets)*	29.
Emerald *(6 outlets; 6 ft cord)*	36.
Sapphire *(3 outlets; EMI/RFI filtered)*	47.
Ruby *(6 outlets; EMI/RFI filtered; 6 ft cord)*	55.
Dove Computer ... 90 days	
MacSnap Memory Upgrades	call
Ergotron ... 1 year	
Mouse Cleaner 360°	15.
MacTilt or MacTilt SE	74.
MacBuffer 512k	329.
MacBuffer 1024k	429.
Farallon Computing ... 1 year	
PhoneNET PLUS *(DB-9 or DIN-8)*	39.
Hayes ... 2 years	
Smartcom II *(communications software)*	88.
Smartmodem 1200	299.
Smartmodem 2400	449.
InterBridge *(connect Appletalk networks)*	659.
IOMEGA ... 90 days	
Bernoulli Box *(dual 20 MB w/SCSI)*	1879.
Bernoulli Box *(dual 10 MB, Appletalk)*	call
Kensington ... 1 year	
Appletalk Cable Clips or Connectors	*each* 1.
Mouse Cleaning Kit w/Mouse Pocket	17.
Disk Drive Cleaning Kit	20.
Tilt/Swivel	22.
Universal Copy Stand	24.
Polarizing Filter or Surge Suppressor	34.
System Saver Mac or Control Center	64.
A-B Box *(for the Mac Plus)*	64.
Turbo Mouse	85.
Koala Technologies ... 90 days	
MacVision *(digitizer)*	175.
Kraft ... 1 year	
3 Button Quickstick	39.
Migent ... 1 year	
Pocket Modem *(ext. 1200 baud)*	175.
Mirror Technologies ... 1 year	
Magnum 800 External Drive	209.
Magnum 20 Tape Backup	899.
MagNet 40/40 *(40MB, 40MB tape)*	2395.
MagNet 20x *(w/cable)*	779.
MagNet 30x *(w/cable)*	949.
MagNet 40x *(w/cable)*	1299.
MagNet 85x *(w/40MB tape)*	3995.
Nutmeg Systems ... 1 year	
Nutmeg 19″ Monitor	1579.
Personal Computer Peripherals ... 1 year	
MacBottom HD 21MB *(SCSI)*	$859.
MacBottom HD 21MB *(SCSI)* with modem	999.
MacBottom HD 45MB *(SCSI)*	1285.
Summagraphics ... 90 days	
MacTablet 12″ x 12″ *(sketching)*	379.
Systems Control ... 2 years	
MacGard *(surge protection)*	55.
Thunderware ... 90 days	
ThunderScan 4.0 w/Power Port	199.
Western Automation ... 1 year	
DASCH RAMdisk 2000k	459.

DISKS

Sony 3½″ DS/DD Disks *(box of 10)*	20.
Fuji 3½″ DS/DD Disks *(box of 10)*	20.
MAXELL 3½″ DS/DD Disks *(box of 10)*	21.
Verbatim 3½″ DS/DD Disks *(box of 10)*	21.
3M 3½″ DS/DD Disks *(box of 10)*	21.

INFORMATION SERVICES

CompuServe	
CompuServe Information Service	24.
Dow Jones	
Dow Jones News/Retrieval Membership Kit	24.

ACCESSORIES

I/O Design	
Imageware II *(Imagewriter II carry case)*	49.
Macinware Plus *(Mac Plus carry case)*	69.
Macinware SE *(Mac SE carry case)*	89.
Kalmar Designs	
Teakwood Roll-top Case *(holds 45 disks)*	14.
Teakwood Roll-top Case *(holds 90 disks)*	21.
Teakwood Roll-top Case *(holds 135 disks)*	29.
Moustrak	
Moustrak Pad *(standard 7″ x 9″)*	8.
Moustrak Pad *(large 9″ x 11″)*	9.
Sensible Softworks	
"MacAttire" covers for 512k, Plus & SE	7-17.
High Trek Mac Plus or SE carry case	call

OUR POLICY

- We accept VISA and MASTERCARD.
- No surcharge added for credit card orders.
- Your card is not charged until we ship.
- If we must ship a partial order, we never charge freight on the shipment(s) that complete the order.
- No sales tax.
- All U.S. shipments insured; no additional charge.
- APO/FPO orders usually shipped 1st Class Mail.
- Allow 1 week for personal and company checks to clear.
- UPS Next-Day-Air available.
- COD max. $1000. Cash or certified check.
- 120 day limited warranty on all products.*
- To order, call us anytime Monday thru Friday 9:00 to 9:00, or Saturday 9:00 to 5:30. You can call our business offices at 603/446-7711 Monday through Friday 9:00 to 5:30.

SHIPPING

Note: Accounts on net terms pay actual shipping. **Continental US:** For printers and hard drives add 2% for UPS ground shipping (call for UPS Blue or UPS Next-Day-Air). For all other items, add $2 per order to cover UPS shipping. We will automatically use UPS 2nd-Day-Air at no extra charge if you are more than 2 days from us by UPS ground. **Hawaii:** For printers and hard drives, actual UPS Blue charge will be added. For all other items, add $2 per order. **Alaska and Outside Continental US:** Call 603/446-7711 for information.

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Maximum

Adding memory's a Snap.

If you're using your Mac for business, you want to spend your time computing, not flipping disks in and out. With *MacSnap 2s* from Dove Computer Corporation you can have a bunch of programs at your click and call, because it more than doubles the amount of RAM on a Mac Plus or Mac SE (from 1 Mb to 2.5 Mb).

That means you have RAM room for more than twice as many programs (depending, of course, upon their size). Using Dove's RAM disk utility, not only do you eliminate disk swapping, but, with everything in RAM, you greatly increase your operating speed. *MacSnap 2s* can be further expanded to 4 Meg and is compatible with most internal peripherals. See our Tip Sheet for more information on memory upgrades.

Dove Computer's MacSnap 2s ... 90 days **$659**
(Call for prices on other Dove memory upgrades).

Tip Sheet.

Name: Casey Schnackenberg **Claim to fame:** Enjoys ice fishing at -15°F.

"So you originally bought your Mac just to keep a little database, and now you're an inveterate computer jock with a 16-hour-a-day habit and a vast library of software. These things happen. It's time you got more RAM. Why? To minimize the constant back and forth between RAM and disk. To keep a whole lot of programs active. And to do things like manage your printer while doing other computing (it's called print spooling). Hard drives minimize disk swapping, but RAM upgrades are the thing for faster computing. Dove Computer offers memory upgrades for the Mac 512, Plus, SE and II. Call us for details.

Spool yourself!

You've just started printing your report on the effect of electronic zithers on the "Silicon Sound." Now you'd like to switch over to your 3-year projection factor on the long-term ramifications of your new data. But you've got to cool your jets 'til the printing's done. Not with *SuperSpool* (for ImageWriter I & II printers) or *SuperLaserSpool* (for LaserWriter and ImageWriters). They'll take over the print managing, while you get on to bigger and better things. Both are transparent (work in the background), are compatible with all major applications, and work on both floppy and hard disk systems.

SuperMac Software (not copy-protected)

SuperSpool 3.4 (for 512, 512E, MacPlus & SE) **$49**

SuperLaserSpool 1.1 (for 512, 512E, MacPlus & SE) **$99**

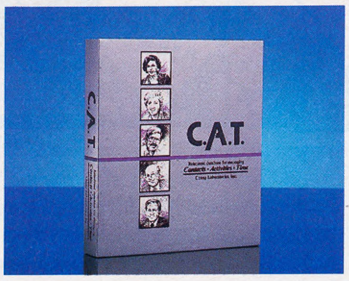
Multi-User SuperLaserSpool 1.1 (for 512, 512E, MacPlus & SE) **$259**

Visual database.

You probably never realized how many different graphics you'd use (and create yourself) when you bought your Mac. Now the problem is to find a convenient place to keep them, ready to re-use at your slightest wanton whim. Get *PictureBase.* It puts graphics at your fingertips fast, even when you're in other applications. And, with the multi-user license available from Symmetry, you can even share graphics through AppleShare, MacServe, or other AppleTalk file servers.

Symmetry's PictureBase 1.2
(not copy-protected, for 512, 512E, MacPlus, SE & II) **$42**

C.A.T. for your mouse.



C.A.T. stands for Contacts, Activities, Time: i.e. it keeps the Who, What, and When of every event related in a single database. Enter and look for information based on a contact person, activity (meeting, letter, phone call, etc.), and/or when it happened. *C.A.T.* constantly updates your files, and generates reminders, schedules, memos, etc. based on that data. This is an exciting and powerful new management tool. Compatible with the Macintosh 512, 512E, Plus, SE and II.

Chang Labs
C.A.T. 1.0 (not copy-protected)... **$199**

Design circuits on screen.

Attention all you people with an engineering bent! Or even a mild inclination thereto. *Designscope* from BrainPower lets you develop up to 254 component block diagrams for digital and analog circuits on screen, assign parameters to each block, and then simulate the completed circuit. So you can catch problems before you start designing component circuitry. There's a truly tongue twisting variety of component blocks available, including amplifiers, analog switches, voltage sources, noise generators, flip flops, one shots, and more.

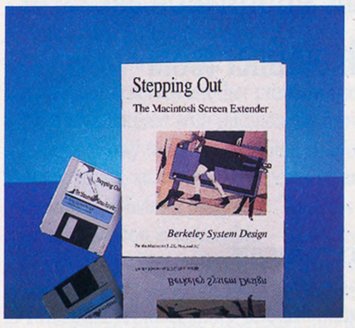
BrainPower's Designscope 1.15
(not copy-protected, for 512, 512E, MacPlus, SE & II) **$129**

Shift into high gear.

What's a high-speed daredevil like you doing with that wimpy little mouse on your desk? Accelerate into those cursor corners with a Kraft Systems 3-button *QuickStick.* The same fast response and click action as a mouse, combined with the speed and sheer unadulterated fun of a joystick.

Kraft Systems
QuickStick ... 1 year.............................. **$39**

Screen Control.



No more squinting. No more mysterious objects crawling outside of your field of vision. *Stepping Out* gives you the ability to move through pages in a single slip of the mouse *without scrolling.*

And it has a few other handy features, such as letting you zoom in on your screen (with 2X to 16X enlargement) or see the big picture (with 2X or 4X reduction). All of which makes *Stepping Out* a great program for any design or desktop publishing application. Compatible with the Macintosh 512, 512E, Plus and SE.

Berkeley System Design
Stepping Out 1.1 (not copy-protected) **$57**

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WINDOW ON OUTLINING PROGRAMS

SOFTWARE JACKS-OF-ALL-TRADES

Users stay on top of the information age with outliner tools

LAX JANSEN

BY STEVE MICHEL
Special to MacWEEK

With the release of ThinkTank for the IBM PC and the Apple II in 1983, Living Videotext of Mountain View, Calif., created more than just a software program; it created a market.

Originally designed as a tool to help writers, speakers and others organize their thoughts and ideas, outliner programs have become widely used for a myriad of other purposes. But it was not until the appearance of ThinkTank, MORE, and Desk Accessory outliners such as Acta, Voila! and Outlook for the Macintosh that the additional utility of outliners became evident.

What is an outliner? Basically, an outlining program allows the user to create headlines or topics and to place subheads below those headlines. To view the structure from a certain level, headlines and text in those headlines can be "collapsed" to hide them from view. A headline can be "promoted" (moved to a higher level), or "demoted" (moved to a lower level, to become subordinate to another headline) as the structure of the document changes. All items below a specific headline are moved when the headline is moved. In addition to one-line topics or headlines, most outliners allow the user to create paragraphs, which also can be collapsed or expanded.

The implications for the writer are clear. Given its larger size, a book can be outlined almost as easily as a speech or an article. Any document can be restructured easily as new ideas are added or existing ones change in importance. The structure of a document can be edited as easily as its component words or phrases.

According to Scott Schwartz, president of Symmetry Software of Mesa, Ariz., publisher of the Desk Accessory outliner Acta, a "user" trend is to use outliners for many other purposes beyond outlining, such as organizing data.

At the Berkeley (Calif.) Macintosh Users Group meetings, BMUG official Raines Cohen quickly and easily keeps the minutes of the meeting. With a Macintosh hooked to a large-screen projector, all in attendance can watch as he uses Acta to enter the topics and content of the meetings. As the discussion proceeds, Cohen deftly expands, collapses and adds to the minutes. The discussion moves from topic to topic, sometimes returning to the same one several times during the course of the meeting. When a new topic comes up, he adds a new "daughter" or subhead to include it. Using a standard template, the minutes of all BMUG meetings have the same structure — insofar as the minutes of such an unstructured affair as a BMUG meeting can have a structure.

"Only with an outlining tool could taking the minutes of the meeting be so quick and easy," said one BMUG regular.

For some, outliners are almost the only programs they use, and they use them for a wide variety of purposes. The owner of a wood products manufacturing company in Sacramento, Calif., uses MORE in a variety of ways. "It's virtually the only program I use," he said.

He uses it to detail the itineraries for his many sales trips to the Northeast — making a headline for each day of the trip. Under that headline, he has others that show where he will be staying and how he will be traveling. He also includes notes for the meetings he will be having.

"It's easy to take those meeting notes and turn them into an agenda that I can hand out at the meeting," he said.

He also has used MORE to create a slide show that, thanks to that program's bullet chart and animation options, he can leave running on a Macintosh in his company's booth at trade shows.

"It catches the attention of people walking through the trade show — computers aren't very widespread in my business — and keeps them busy while I am talking to others. They don't get bored looking at the presentation, and if I have to be talking to someone else, they don't walk out of the booth before I or one of my sales people can get to them," he said.

What else would he like from an outline processor? "Real word processing. It would be nice to have true word processing with more control over such things as page formatting, but we can work around it. My secretary uses an IBM PC, but we're hooked together over a network. Since MORE can save its files in the format of Ready (an outline processor for the PC, also from Living Videotext), I just save notes for my letters in that format. We've hooked the two machines up with TOPS, so I can just save it to her hard disk, and she can then easily turn the outline into a letter or memo."

The word processing connection

Complete integration of word-processing and outlining features is still on the horizon. Many users want it. Currently, turning an outline into a document requires much cutting and pasting. And you lose the ability to go back and forth, from outline view to word-processing view. It sometimes makes writing from an outline a difficult process.

> "Shareware programs have extended the utility of outliners too, sometimes taking them where no program has gone before."

Many of the newer word-processing programs — such as Word 3.0 from Microsoft Corp. of Redmond, Wash., and MindWrite from MindWork Software of Carmel, Calif. — support integrated outlining with varying degrees of success. The outlining in Word is a limited implementation: Headlines or topics can only be moved up or down one level at a time.

"Microsoft just doesn't understand outlining," said one commentator on word processing. "The implementation of outlining in Word is just too limited to be of much help.

"MindWrite was originally marketed as a word processor with powerful outlining," he said. "It didn't go far, and now the publisher is retargeting it as a high-end outliner. But it has the opposite problem from Word. In its original release, anyway, it lacked a lot of word-processing features. And since MindWrite's ability to save in formats understood by other programs — such as those for desktop publishing — was limited, it hasn't made much of a dent in the word-processing market. Perhaps they'll succeed calling the program a great outliner."

In its double-page ads for FullWrite Professional, Ann Arbor Softworks of Newbury Park, Calif., has been promising integrated word processing and outlining. According to Mark Marlow, executive vice president of Ann Arbor Softworks, outlining is well-integrated into word processing in FullWrite.

"Essentially, our goal in designing the outlining in FullWrite was to create a very user-transparent method integrating outlining with word processing, so that the user can toggle back and forth between the two views instantly. Outlining is an integral part of the word processing and is always there," Marlow said.

FullWrite also will offer styles for printing outlines, including automatic numbering and indenting. According to Marlow, FullWrite will include several base styles of outline numbering, including the Harvard and Chicago styles, in addition to standard legal and numeric styles. Custom styles allow the user to create his own numbering and formatting styles for the outlining.

At the time of this writing, FullWrite Professional was not yet available, so it remains to be seen how users will take to the new word processing kid on the block and its integrated outlining.

Information publishing

Another trend in outlining products is using outline structures for information publishing. With the release of MORE 1.1, Living Videotext included The National Directory, a product of General Information in Seattle.

The National Directory is a set of files listing addresses and telephone numbers of businesses, colleges and government organizations nationwide. Different types of organizations are broken into separate files: travel companies, for example, or colleges and universities. Open one of these files, and you see an alphabetical list of the organizations. Double-click on one of the organizations, and MORE presents you with the organization's mailing address and phone number. If you have the right hardware connected to your computer, such as a modem, you can select the phone number and have MORE dial it for you.

Symmetry's Schwartz said his company has considered bundling a useful directory with Acta. Aimed at the college student market, it would include a nationwide listing of the addresses and phone numbers of all the Domino's Pizza parlors nationwide.

> "Macintosh outliners can usually store graphics as well as text, so creating a presentation or report can be quite easy.

Detailing all the uses of outlining products could take a book — or a disk full of templates. Outliners are used to store such things as appointment books (by creating headlines for weeks or months, with more detailed information underneath them) and name and address files (by starting with the names in alphabetical order, and as the list grows, grouping them by letter of the alphabet or groups of letters). Since most outlining programs can sort topics under a headline, managing data such as this is fairly easy.

"There's a user trend with these programs," said Schwartz, of using outliners for such a wide variety of things. Since outliners can usually do a wide range of formatting — such as bulleted or numbered paragraphs — generating reports or lists can be easier with outliners than with databases or word processors. And, of course, Macintosh outliners can usually store graphics as well as text, so creating a presentation or a report can be quite easy.

For many, the outliner can replace the database. Instead of keeping, say, names and addresses in a database, outliners — especially those that are available as Desk Accessories — can be handier, providing many traditional database functions. These include sorting and keeping track of the last time a prospect was contacted.

For those whose Apple menus are pushing the 15-Desk Accessory limit, a Desk Accessory outliner such as Acta, Voila! or Outlook can ease the burden. Apple's Scrapbook is painfully slow, and there is no practical way to move from one item to the next without stopping to look at every other item along the way. Instead of the Scrapbook, many users paste pictures, often-used text and the like into an outliner. Most outliners are much faster than the Scrapbook and offer the added benefit of giving you a table of contents — if you place a descriptive headline at the level above the graphic or text item. Other Desk Accessory-type applications that can be performed by an outliner include calendars, "to do" lists, note takers and more. They also are good to use as places to put notes for spreadsheets or databases.

Public domain or shareware programs have extended the utility of outliners too, sometimes taking them where no other program has gone before. For example, "Dir-Acta-ry" — created by David Dunham, author of Acta — scans a Macintosh disk and creates an Acta outline of the files on the disk, which can include the file name, kind, size and the last date it was modified. The disk directory then becomes an Acta document: folders become outline headlines, and files become items under those headlines.

Using a file produced by this program, you can do something that doesn't seem possible with any other Macintosh program: print a listing of all the contents of a hard disk. It's easy to scan through the outline to find out in which folders you have put files and perhaps discover some that you've forgotten. Other public domain or shareware programs for use with Acta can turn PageMaker documents into Acta files or transfer the contents of the Scrapbook and other files, including some text or word processing files, into an Acta outline format.

What to look for in the future of outliners

It is clear that as both outlining and word-processing programs become more powerful, some of the distinctions between them will blur, just as the distinctions between word processors and desktop-publishing programs are blurring. Already, programs such as MORE have moved beyond word and idea processing into desktop presentation.

But as seems clear from some of the uses to which people have put outliners, the real trend is from the user's point of view. With increased familiarity with the program and a little imagination, the software tools are already there to help us do some interesting, useful things.

Often in software advertising, we have been told that the uses of a program were only "limited by your imagination." In the case of outline processors, this seems to be true — and users seem to have good imaginations indeed. ■

Acta and MORE: Surprising synergy from two competitors

The recent announcement of the bundling of Acta with MORE is a significant step forward in outlining products, wedding the most popular outlining application with the most popular outlining Desk Accessory.

One of the useful things about outliners is their versatility. The things you can do with them is limited only by your imagination. But having an outliner available only as an application limits its use.

You do not always have your outlining application open, so if you want to add to or change an outline while you are using your word processor, you have to quit the word-processing program and start up the outline program. A Desk Accessory outliner, on the other hand, lets you get to your outlines when you are working in any other application.

Instead of starting at square one and writing its own Desk Accessory, Living Videotext took the shortcut of bundling Symmetry Corp.'s Acta with MORE. This made sense for several reasons: Acta was the most popular Desk Accessory outliner, and Acta 2.0 could read MORE files. All it took were some minor changes to the menus so that the same terms and keystrokes used in MORE are also used in Acta.

Users who purchase MORE after mid-August will receive Acta free of charge. Others can purchase an update — which includes the color version of MORE 1.1c as well as Acta — for $40.

Acta 2.0, which will also be available separately, also solves another problem users have encountered with outliners by providing a flexible way to transfer outlines into other applications, such as word processors and desktop-publishing programs. And this format conversion is extensible — it can be easily modified with small "drivers" that can be added to the System folder of your disk.

When saving files, Acta looks into the System folder, finds the translators available and presents those options to you. Perhaps one of the nicest translator features available is for Microsoft's Rich Text Format (RTF). Using the RTF translator, you can easily open a document that was created in Acta or MORE and saved into RTF. When you bring the document into Word 3.0, it is easy to modify the appearance of the document with style sheets or to place it into desktop-publishing documents.

A unified Desk Accessory and increased file compatability promise to make outliners more accessible and to increase the number of practical uses for them.

As Scott Schwartz, president of Symmetry in Mesa, Ariz., said, "We now can deliver to the user a complete outlining solution, combining the elegant yet simple outlining of Acta with all the power of MORE." — *By Steve Michel*

Focus: Word processing

BY BILL LANGENES

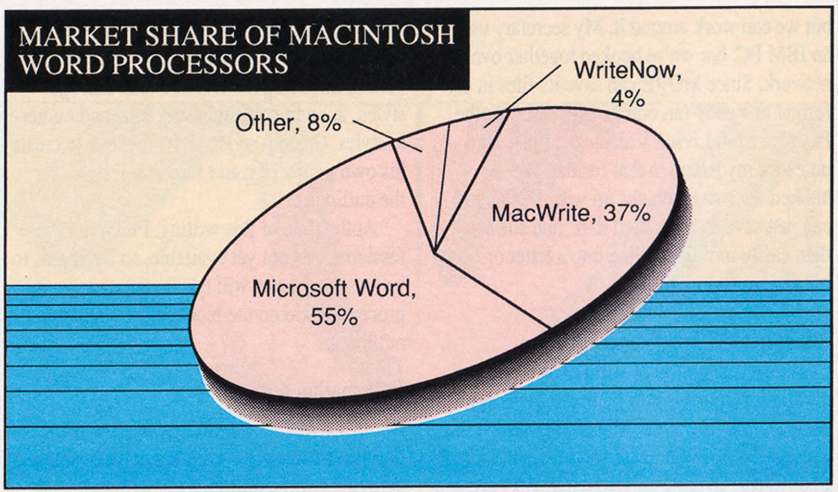
Creative Strategies Research

A July survey of 301 Macintosh users found that Microsoft Word is used by 55 percent of those with a word processor. Apple's MacWrite is used by just over one-third of users. WriteNow from T/Maker Co. of Mountain View, Calif., holds a 4 percent share. MindWrite from MindWork Software of Monterey, Calif.; Jazz from Lotus Development Corp. of Cambridge, Mass.; and Works from Microsoft Corp. of Redmond, Wash., together hold the remaining 4 percent of the market.

Ninety-five percent of respondents said they use a word processor.

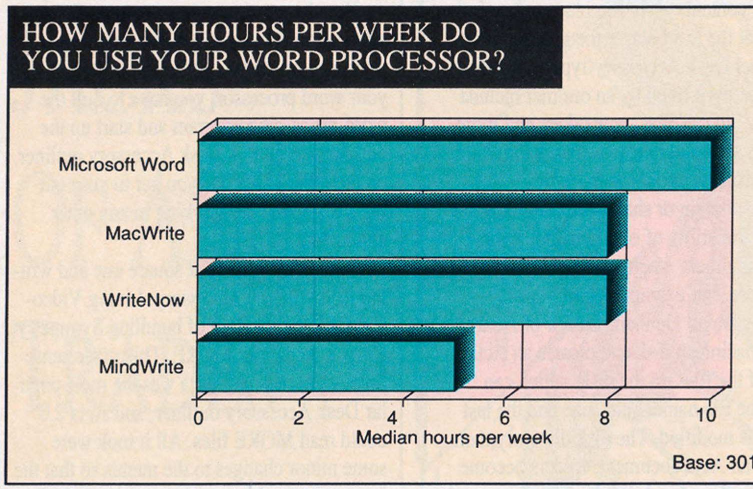
These are the results of the MarketWEEK survey of MacWEEK readers working in sites with large numbers of Macintosh computers.

MARKET SHARE OF MACINTOSH WORD PROCESSORS



Source: July 1987 Creative Strategies/MacWEEK

HOW MANY HOURS PER WEEK DO YOU USE YOUR WORD PROCESSOR?



Source: July 1987 Creative Strategies/MacWEEK

Word most popular with 'power users'

Based on the median of 10 hours per week that Microsoft Word is used — the most of any word processor — Word users appear to fit into the "power user" category. Ten hours represents about one-quarter of their work week. MacWrite and WriteNow users work about eight hours per week with their word processor. At about five hours per week, MindWrite users appear to be in the "casual user" category.

Among Word users, 13 percent have a Mac 512K, 73 percent use a Mac Plus, 12 percent work on a Mac SE, 1 percent have a Mac II, and 1 percent labor on a Mac 128K. Generally, Word users have a greater portion of the more powerful Macintoshes, another indication that Word is preferred by heavy-duty word-processor users.

As a measure of the word-processor preferences of users of new Macs, all Mac II users have Word, while 61 percent of Mac SE users have Word, 35 percent have MacWrite, and 3 percent have WriteNow. In contrast, more than half of Mac 512K users have MacWrite.

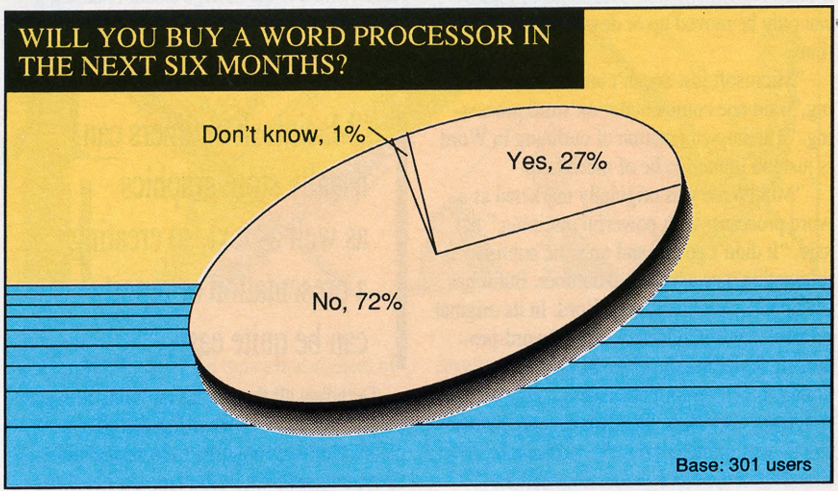
One-fourth plan to buy word processors

Just over one-fourth of survey respondents intend to buy a word processor in the next six months. Seventy-two percent currently have no plans to buy a word processor, and 1 percent didn't know what their plans were.

All respondents planning to buy a word processor are currently using a word processor, which provides an indication of current user dissatisfaction. Only 31 of 157 respondents using Word plan to buy a new word processor, perhaps indicating that Word users are the most satisfied with their program. In addition, of the Word users planning to buy, 29 percent plan to buy an updated version of Word.

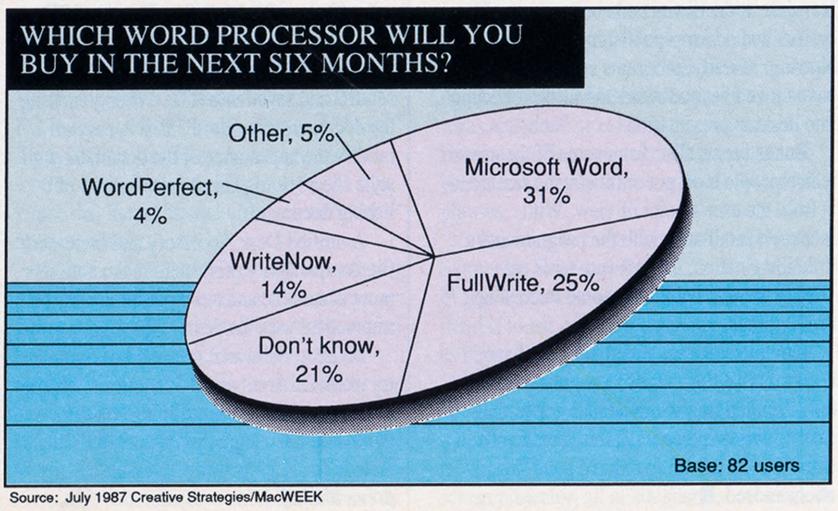
More than one-third of MacWrite users — 38 percent — plan to purchase another word processor; all intend to buy another brand. One-third of WriteNow users plan to buy a new word processor, and again, all intend to buy another brand.

WILL YOU BUY A WORD PROCESSOR IN THE NEXT SIX MONTHS?



Source: July 1987 Creative Strategies/MacWEEK

WHICH WORD PROCESSOR WILL YOU BUY IN THE NEXT SIX MONTHS?



Source: July 1987 Creative Strategies/MacWEEK

Buyers moving up to power programs

Which word processors will these respondents buy? The power programs: Microsoft Word and the soon-to-be-released FullWrite, which together represent 56 percent of programs users will soon buy. A sizable percentage of respondents — 21 percent — are undecided about which word processor they will buy. Fourteen percent said they intend to buy WriteNow, and 4 percent said they will purchase WordPerfect when it is released.

Nearly half (46 percent) of the respondents buy most of their programs via mail order. One-third shop at computer stores and other retailers. Price-conscious buyers choose wholesale distributors (11 percent) and manufacturers (5 percent). Two percent buy from other sources, and 2 percent don't buy software.

The MarketWEEK Survey is conducted exclusively for MacWEEK by Creative Strategies Research, a high-technology research and consulting firm based in Santa Clara, Calif. For this survey, a random sample of U.S. corporate and other volume users were selected from the MacWEEK subscriber database.

WINDOW ON WORD PROCESSING

WORDS AT WORK

Mac word processing is gaining respect in the business world, and some of the reasons may surprise you

BY DENNIS KLATZKIN
Special to MacWEEK

Word processing has always been the "meat and potatoes" microcomputer application.

It was largely responsible for introducing the microcomputer into the work place, just as it had originally brought larger computers into the mainstream business world in the form of dedicated word-processing systems. According to a recent MacWeek survey, 99 percent of all large-organization Macintosh users have word-processing software. True to its workhorse role, word processing is unglamorous and yet indispensable. It doesn't get headlines, but its technology is mature, as are the requirements and expectations of its users.

The Macintosh has not had a particularly rich offering of word-processing software either in terms of variety or power. How has it achieved an ascending position as a business machine while its word-processing tools were conspicuously lacking? Does the Mac actually have a future as a business text engine? Is there life after MacWrite? Has Apple broken all the rules, or has it begun to rewrite them?

Here's a look at two firms — one medium-size and one international in scope — and how they are faring with Macintosh word processing.

A favorable verdict

At the offices of Williams & Martinet, a medium-size general practice law firm in San Francisco, Macintosh SEs were introduced about five months ago because of their ease of use and versatility. According to Roger Williams, a microcomputer specialist with Williams & Martinet, some of the attorneys and other personnel were "dragged kicking and screaming into the era of total office automation" but are now its most enthusiastic advocates. A network of 15 Macintoshes handles all of Williams & Martinet's word-processing workload as well as almost all record-keeping tasks. Great cost savings have been realized from a vastly improved turnaround time for the mass of documents that a law office generates. Training time has been cut dramatically.

Williams has created disk-based templates for the hundreds of standardized letters, forms, pleadings and contracts used by the staff at Williams & Martinet. Because the Mac has proven to be so approachable, some of the attorneys themselves are generating boilerplate documents in considerably less time than it took for them to edit, revise and proof hard copy manually.

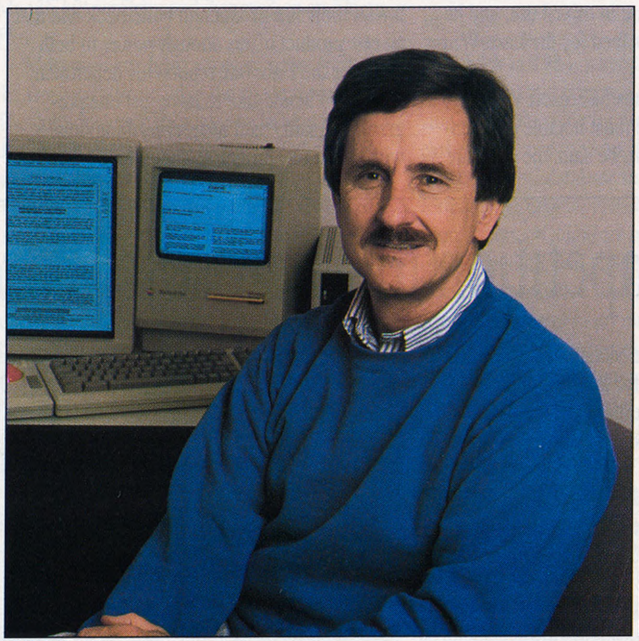
Of course, the new procedures also reduce clerical costs and provide the added benefit that the attorneys are not nearly so dependent on support staff. Leonard Martinet, a partner in the firm, said: "The attorneys can create their own documents, their own letters. They don't have to push the panic button for overtime secretaries. It's a tremendous cost advantage."

Williams said: "There are literally hundreds of one- and two-page standard forms which must be presented to court on pleading paper. Proofs of service, substitutions of attorney and special notices are available without searching for blanks or having to copy old forms." The alignment of captions and text on ruled, line-numbered pleading paper is no longer a problem since all elements of the document are contained in one file and printed at the same time. A significant bonus, Williams said, is that the return of documents by the courts because of errors has been minimized.

MONICA LEE

"What counts now is really being able to make text attract people's attention."

DAWN PERUSSE, owner, Corporate Solutions



MONICA LEE

"There are hundreds of one- and two-page standard forms that must be presented to court on pleading paper."

ROGER WILLIAMS, Williams & Martinet microcomputer specialist

The Macintosh is singularly effective for word processing at Williams & Martinet because of its page-layout strengths. Even documents for which the courts require precise formats, including specific type styles or documents with extensive mathematical calculations, can be created as fill-in-the-blank style forms and printed with the LaserWriter on plain paper.

In addition to Word from Microsoft Corp. of Redmond, Wash., the company is using two presentation packages — Ready,Set,Go! 3 by Letraset of Paramus, N.J., and Trapeze by Data Tailor Inc. of Fort Worth, Texas — for tasks that are traditionally considered to be word processing in nature. Yet Williams does not see his company's new methods as "desktop publishing," but as a multifaceted approach to document assembly.

For the love of Peat

Peat Marwick Main & Co., one of the "Big Eight" accounting firms, selected and purchased a large number of Macs even before the machine's official introduction in 1984, largely on the basis of its ease of use and transportability for field-auditing purposes. Today the company's 5,000-plus Macintoshes are used primarily for auditing and accounting functions, but in at least one Peat Marwick office, Apple's technology is making inroads into traditional word-processing territory.

John Cole, the data processing and technical support supervisor at Peat Marwick's large San Francisco office, said the Macintosh can be an effective replacement for the company's dedicated and microcomputer word-processing systems.

"We selected three audit secretaries who were using Multimate software on IBM PCs," he said, "and gave them Macintosh SEs with internal drives and Word 3.0. I thought I was really going to have to sell them on the Macintoshes. One by one, each of them called us and asked to have the IBMs removed from their desks because they were taking up too much room."

Cole summed up Apple's greatest advantage over dedicated word-processing systems in one word: price. "I think businesses will start looking at the Mac because of price. We're spending a lot on Mac IIs now, and that's because they are inexpensive compared to what we paid for the dedicated systems." He said maintenance costs alone on one of Peat Marwick's older systems can equal the cost of six Mac IIs over the course of a year.

Many of the proposals and reports written by Peat Marwick's management consulting division are crafted by the San Francisco office's graphics department on Mac IIs, primarily with Microsoft Word 3.0, PageMaker 2.0 by Aldus Corp. of Seattle, and MacDraw. While Cole readily admitted the current page-layout software is not the ideal vehicle to make successive document revisions, he said there is an overriding reason for bringing presentation software into word-processing roles.

"The management consulting department here went with the Macintosh because they feel their reports look better and hold more weight, and they are doing very well because of it," Cole said. He said this presentation approach toward document processing will supplant traditional word processing throughout the

Continued on next page

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industry "when the competition sees a shift of client dollars going toward the companies whose reports look 'desktop published.' "

Prose and cons

There are some drawbacks to Macintosh word processing. Williams said that some needed peripherals, like optical character readers and large-screen displays, are still too costly for companies with limited budgets. Print spooling is not practical at his firm since a variety of forms and letterheads are in mixed use, and he said a multiform printer feed for the LaserWriter is needed.

Williams said he finds Microsoft Word's manual repagination its most notable deficiency. But for the most part, he said, the software more than meets his company's needs.

Cole said the multi-user and multitasking environment on the Macintosh must be enhanced before it can rival the dedicated systems in a busy report center. As for Microsoft Word 3.0, he said, "I think it's one of the best, but it could be better." He said page-layout and columnar features are likely targets for improvement.

Richard D'Amico, Peat Marwick's graphics department manager, said the integration between existing word-processing and page-layout tools is a production bottleneck and that no one product offers enough power in both areas for the elaborate reports his department creates. "I would like to have just one program," he said, "and have everything done within that one program. That would save us a tremendous amount of time."

Parting words

If there is a common thread between the experiences of these two firms and if any conclusions can be drawn, it appears that the Mac is a viable word-processing workhorse. It is not gaining a foothold because of text-processing muscle but because its presentation abilities can effectively supplement its word processing. The term word processing itself may no longer be adequate, just as desktop publishing may be misleading. Document processing seems to be the Mac's domain in the business world.

Dawn Perusse, owner of Corporate Solutions, has a wide perspective on document processing. Her San Francisco Bay Area-based firm has provided consulting and training services on the subject to many large- and medium-size businesses. "Perhaps the dedicated word-processing system is the powerhouse for straight text processing. But just processing text is not going to get people to read it any longer," she said. "What counts now is really being able to make that text attract people's attention. Document processing is what's going to make the Mac a powerhouse."

If the Mac becomes such a document-processing standard, it will most likely be because of increasingly better integration of its text and page-layout capabilities. Of course, new and better ways to handle just the text will always be a factor. Auditors will continue to dwell in columns, attorneys in footnotes and writers in outlines. But they are all recognizing the value of making the best possible presentation. ■

The competition to Microsoft Word is heating up

Word processing on the Macintosh has been a waiting game: waiting for the Mac to play catch-up with its counterparts, waiting for the arrival of the super-products, waiting for a revolution.

Now it's 1987 and the battle has begun. The Mac will finally be able to rival, if not outperform, those blue-flannel-suited machines. But the Mac has done more than simply match the other guys feature for feature; it has redefined the meaning of word processing itself.

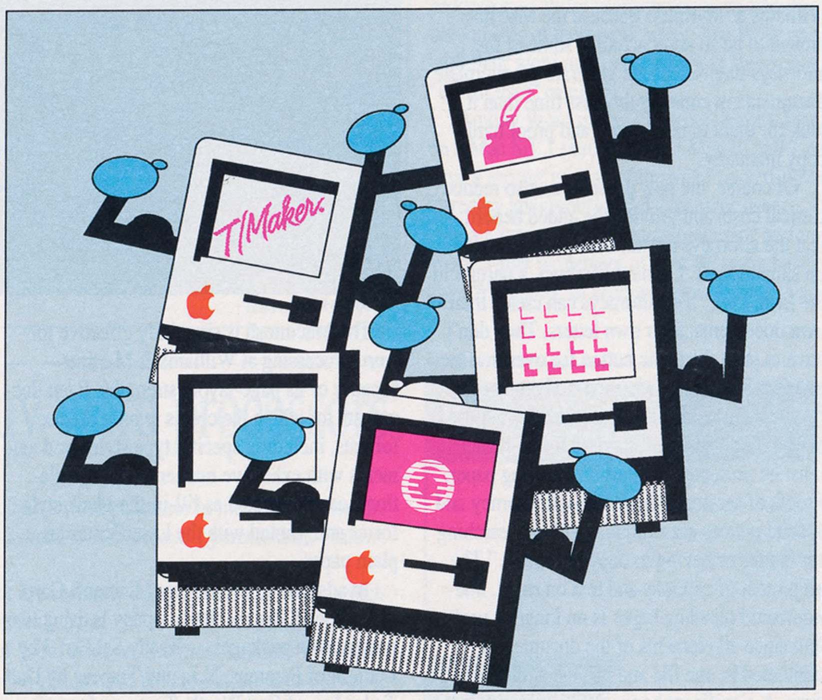
Back in 1984, Apple proudly unveiled its new marvel, the Macintosh personal computer, and along with it the Mac's two little bundles of joy, MacPaint and MacWrite. Potential buyers watched demonstrations of MacPaint and stood by in awe. They watched MacWrite and stood by.

MacPaint was clearly the star of the show, while MacWrite was described in terms such as "serviceable, if somewhat limited." Nonetheless, MacWrite was the only game in town, and it is reported that at least one entire book manuscript was written and edited with it — about as easy as mowing a lawn with a pair of scissors.

MacWrite charted the future for the Mac's special form of word processing but lacked text-handling muscle. It placed a limit of about 5,000 words on the document size and lacked the ability to open multiple documents. Its header, footer, search-and-replace and formatting functions were underpowered. MacWrite did not have macros, glossaries, footnoting, merge files, multiple columns of text or keyboard equivalents to mouse movements. Word-processing users needed more.

Funny, you don't look bluish!

Microsoft's introduction of Word in 1985 removed all but a few of the artificial constraints imposed by MacWrite on document size and format and offered a wide range of special features. Well into 1987, Word retains an unrivaled sales position as the No. 1 high-end word-processing program for the Macintosh. Shoring up that position is this year's introduction of feature-laden Version 3.0, upon which Microsoft did a Heimlich maneuver, resuscitating it as Version 3.01. Notwithstanding all of its power, Word has been criticized for being tainted by its MS-DOS origins, for its Byzantine implementation of some features, for awkward repagination and column handling and for a host of other WYSISWYG ("What You See Is Sorta What You Get") deviations from the Mac user interface. Word is strong but vulnerable, and potential challengers have been busy.



GAIL WAGNER

WriteNow, by T/Maker Co. of Mountain View, Calif., combines MacWrite's ease of use with some of the features that MacWrite lacks. Most notably, WriteNow can open multiple files on screen and has a fairly efficient spelling checker and a straightforward, if somewhat limited, multicolumn feature. It has a friendlier formatting approach than MacWrite. And it offers a basic element lacking in Word real-time automatic pagination: It monitors and displays actual page endings as you type or edit.

WriteNow scrolls text quickly and smoothly but cannot import or export any file format other than its own without a separate translator utility. This last drawback may be WriteNow's greatest deficiency. T/Maker is planning to upgrade the product, which can only help solidify its position in the middle of the pack as a sensible choice for people who don't need to approach word processing with a nuclear arsenal.

Firebird Licensees of Ramsey, N.J., U.S. distributor of Laser Author, describes its program as more than a word processor. Laser Author merges the elements of text handling and page layout in an innovative, useful fashion. Laser Author offers "styles" — one of Microsoft Word's most potent tools — in a comprehensive yet easy-to-learn package. The collective properties of paragraphs, headings or highlights can be defined in a style editor and applied to text with a simple menu choice. As in Word, style definition seems to be an extra burden until you grasp its tremendous global formatting power.

Laser Author can create frames, much like those in page-layout programs, which can contain text, graphics or even other frames and which can be made to "float" with specified text. Although it lacks many of the heavyweight text-handling punches of Word, Laser Author takes a more direct and ultimately more flexible approach to its page-layout functions.

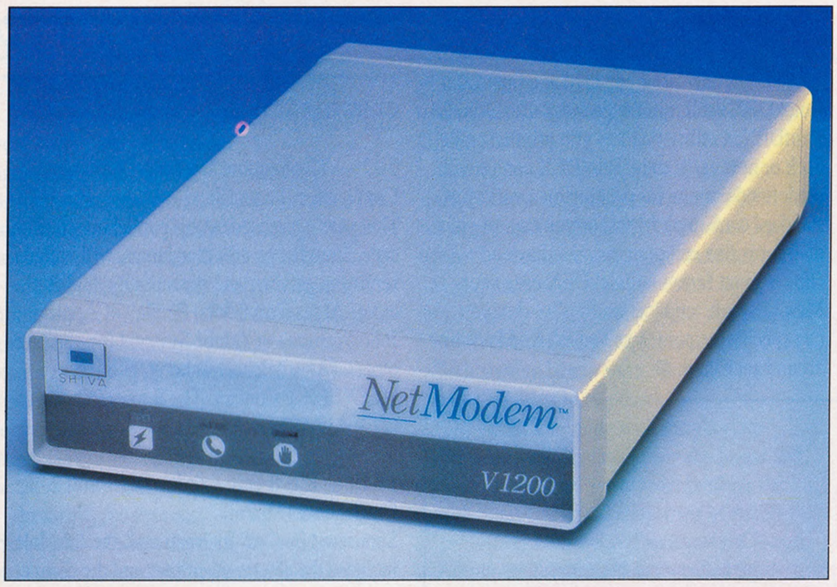
SuperBells and WhistlesPlus

Two long-awaited products were shown at the Boston Mac Expo last month and may be available this fall. FullWrite Professional from Ann Arbor Softworks of Newbury Park, Calif., promises to bridge further the gap between text and page-layout elements. If the advance notices by its creators are any indication — and with a list of features long enough to require a word processor to enumerate — this may well be a big gun in the word-processing revolution. Ann Arbor is now promising a release date in the middle of this month.

WordPerfect Corp. of Orem, Utah, also will bring its much acclaimed word-processing expertise to the Mac market. WordPerfect for the Mac will be the most direct high-end competitor to Word, challenging Microsoft's array of power features with an awesome amount of text-handling magic. WordPerfect Corp. claims that its product is in its final stages of testing and will be released later this year.

The leapfrogging effect that has driven desktop-publishing programs through a rapid escalation of sophisticated enhancements appears to be taking hold of the Macintosh word-processing market. In an effort to avoid being characterized as an underfrog, each new and upgraded program may add or beef up features at a staggering rate. The new generation of word-processing software may bring along tools like global search and replace for fonts and styles as well as for character strings. Some products will probably offer powerful editable macros, such as those in Excel. And they may have spreadsheet and database functions built into their strong word-processing environments.

As the Macintosh evolves its unique blend of text-handling and page-layout capabilities, the software battles are finally heating up. Microsoft Word has the lead, but the competition is lining up on the low ground, the high ground and the text and graphics fronts. The revolution is under way, and the long wait is almost over. *— By Dennis Klatzkin*



NetModem V1200

Shiva Corp.
222 Third St., Suite 1200
Cambridge, Mass. 02142
(617) 661-2026
List price: **$599**
Strengths: Gives access to a modem to any Mac user on an AppleTalk network; sound and imitation LEDs provide feedback.
Weaknesses: Unlike other modem-sharing solutions, does not work with ordinary modems; no 2,400-baud version available yet.

BY MICHAEL GOODWIN
Special to MacWEEK

SAN FRANCISCO — With business telecommunication increasing by leaps and bounds, the number of people in Macintosh offices who need access to a modem is growing just as fast.

Until recently, the only solution has been to throw a lot of money at the problem and buy everyone his or her own modem — and even this expensive solution is not perfect. Many high-powered telephone systems require nonstandard phone jacks in the wall — jacks that modems cannot access. So not only does everyone need a modem, every desk needs wall surgery too.

The cost and hassles of a multi-modem installation are so great, in fact, that far too often the result is no modems at all — or one modem on one desk with one overworked unfortunate who's stuck with up- and downloading everyone else's telecom data.

At last there's a sensible solution, a network solution: the NetModem from Shiva Corp. of Cambridge, Mass. Other companies are releasing other products to meet the same need — hardware/software combinations like Shiva's or plain software working with conventional modems — but NetModem was first out of the gate.

The NetModem works exactly like a shared LaserWriter: It becomes a node on your AppleTalk network and serves all network users. Installation is simple. The hardware component, a small modem the size of a videocassette, can be attached with standard AppleTalk cabling anywhere along the network. Easy connections to a phone jack and an AC outlet complete the hardware installation. Software must be copied to system disks at every workstation, but here again, the process couldn't be simpler. All it takes is clicking on the Installer and answering a few questions. The manual is clear and helpful.

In operation, the NetModem is totally transparent. You need to use the Chooser once to tell the computer about the NetModem, but after that you can simply run your usual telecom software, such as Software Ventures' MicroPhone or Hayes' SmartCom, as if you had your own modem. FreeSoft's Red Ryder 9.4 did not work with the original version of the NetModem software, but Shiva has now fixed the problem. The company reports no difficulties with the forthcoming Red Ryder 10.0. In fact, a Shiva spokesman declares, "We know of no terminal package that won't work with NetModem."

Several routines have been provided to compensate for inconveniences involved with the modem being across the office instead of on your desk. Since you can't monitor call progress through the modem's built-in loudspeaker (often very useful when you're having problems making a connection), the NetModem sends dial, carrier and other tones through the network and plays them over the Mac's built-in loudspeaker. The tones sound fine on a Mac II, but scratchy and distorted on an SE or Plus.

Most modems have a row of status lights on the front to indicate what the modem is doing. The auto-answer light glows to let you know that the modem is set to receive a call and the high-speed light glows to tell you that you are running at 1,200 baud, for example. Obviously (unless you have supernaturally sharp eyesight) you won't be able to use status lights on a modem half an office away, so NetModem puts a graphic simulation at the top of the screen. The only trouble is that with some telecommunications programs, status is indicated by a very slow blink. Hence, to find out whether you're set to receive a call, you have to stare at the auto-answer "light" on the screen display for quite a while before it blinks; a quick glance may be misleading.

One at a time

The NetModem can service only one user at a time, but the software has been designed to minimize waiting and maximize convenience, and these routines work perfectly. If User A is on-line and User B tries to call his electronic mail service, a message informs him that the NetModem is in use. That's no big deal, but it also tells him exactly who is using the modem, so if there's a real emergency she can walk over to User A's desk and plead for access. If there's no emergency, the software offers to alert User B as soon as User A logs off. If this option is selected, User B can quit her telecom program and go about her business. When the NetModem is available, the program advises her and even reserves the NetModem for her until she uses it or loses it.

> NetModem provides the first viable solution to network telecom access.

NetModem can even handle incoming calls. If no network user is on the modem and it has been set for auto-answer, it will take the call, ask the caller's name and notify all users who have asked (via a Control Panel option) to be alerted. If A Mac has been set up to serve as a bulletin-board system, calls can be routed automatically to the host..

NetModem provides the first viable solution to network telecom access. Reporters at MacWEEK who had been complaining bitterly about lack of a private modem are now complaining instead about small problems like scratchy sound, and while they're complaining, they are using it to down-load files they couldn't access before. That's obviously a big step in the right direction. ■

Linking Macs to remote networks

Shiva Corp. has announced a new feature for the NetModem, called "remote node," that should be available by mid-September.

NetModem's remote node feature allows anyone with a Macintosh and an ordinary modem to become a node on an AppleTalk network from a remote location.

"Remote node operation allows you to take your Macintosh home, dial up the NetModem and become a part of the network. You can copy files from the AppleShare server, send electronic-mail messages with Intermail or print to the LaserWriter, according to Frank Slaughter, director of engineering at Shiva.

Currently in beta testing, the remote node operation will be included in the ROM chip of all NetModem V1200's starting this month. Upgrades for NetModem owners will be available for $25.

During this month and October, Shiva also will ship NetSerial, a peripheral-sharing device for AppleTalk networks, and NetBridge, a network bridge that combines and expands AppleTalk networks. ■

QuickDEX

Greene Inc.
15 Via Chualar
Monterey, Calif. 93940
(408) 375-0910
Retail price: **$35**
Strengths: Instant retrieval of card-file data; runs on any Mac with 512 Kbytes or more of memory; runs with almost any application; auto-dialing.
Weaknesses: Data limited to about 10 lines per card.

Way back in 1984, when the Mac was but a newborn, a little program called Rolodex (Version 0.01) was a big hit among members of the earliest Mac user groups. It was a free-form, text-only mini-database that used a file-card format to display its records. The program, soon renamed QuickFile when trademark issues came up, was modest in scope and features, but it was free. Its Find function was lightning-fast and many early Mac users found it convenient for storing simple information.

The author of that program was Bill Atkinson. He has spent the past three years refining the concept behind Rolodex. As the whole computer world knows by now, the wondrous results of his efforts go by the name of HyperCard. For all the bells and whistles he's added, though, Atkinson has yet to solve the most common complaint about his 1984 program: HyperCard, like his old Rolodex/QuickFile, is an application, so you have no direct access to it while you run another program.

MultiFinder is supposed to solve the problem, but the HyperCard manual discloses one critical fact so far overlooked amid the hype surrounding Apple's new releases: To run HyperCard with any other application under MultiFinder, you'll need no less than 2 Mbytes of RAM. That means the combination won't work in any standard-issue, compact-case Mac — up to and including the SE and even plain-vanilla Mac IIs. If you are among the vast majority of Mac owners with 1 Mbyte or less, you are in for an expensive upgrade before you can have ready access to your HyperCard stacks while working with other applications.

Or you can settle for QuickDEX. This new Desk Accessory from Greene Inc., a Monterey, Calif., software startup, uses the same card-file metaphor as HyperCard for free-form text storage. Of course, it lacks most of the latter's sophisticated features — there's no sound, no animation, no programming language — but QuickDEX is the quickest and easiest solution we have found for storing and retrieving simple information like names, addresses and phone numbers. Best of all, it runs on any Mac with 512 Kbytes or more of memory, and since it's a Desk Accessory, you can use it — no matter what else you and your Mac are up to — to copy and paste an address into a letter, for instance, or to jot down the name and number of someone who calls while you're working on a spreadsheet.

The size of QuickDEX "decks" — the term Greene Inc. uses for files of related cards — is limited only by memory. The program is capable of opening up to eight decks at one time.

Continued on next page

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You can add deck names to the QuickDEX menu and the program will keep track of the path through your folders and load the decks when you select them. Opening a large deck takes a moment because the data is read entirely into RAM, but thereafter, searches are virtually instantaneous. Every card has a Find box. Type a few characters into it, hit Return and the card you're after pops into view.

The program includes a handy auto-dial feature. Once you have located the card you want, dialing is as easy as typing Command-D or clicking on the dial button. QuickDEX will automatically find the first phone number following the cursor and send dialing commands to your modem. It's faster and more flexible than the MacDialer accessory in SideKick, although QuickDEX lacks the time-logging capabilities of Borland International's product. The distribution disk also has a "QuickZIP" deck that lists area and ZIP codes for more than 1,000 cities.

Because QuickDEX stores its data as a text file, you can export records from a database application, reformat with any text editor (instructions are provided) and have your data come up as QuickDEX cards.

You can only print one card at a time from QuickDEX itself, but the package also includes PrintDEX, a utility that lets you print an entire deck or new cards only. PrintDEX comes with predefined options for printing on a variety of standard card-stock forms, or you can set your own form size and margins. You have no choice about fonts — QuickDEX uses your Mac's default "application font" — but you can specify the point size and even add a frame around each card. ■

CALENDAR

SEPTEMBER

9-12 — **The Seybold Desktop Publishing Conference** (Santa Clara)
This year's largest desktop-publishing conference, attended by 150 companies, will include seminars, exhibits and speeches by Paul Brainerd of Aldus Corp., John Sculley of Apple and John Warnock of Adobe Systems Inc., among others. (Also Michael Tchong, publisher of MacWEEK.) Contact: The Seybold Group at (213) 457-5850.

14-18 — **Electronic Printer and Publishing Conference** (Miami)
Sponsered by CAP International, the schedule includes the electronic-printer and the computer-publishing systems conferences back-to-back. Features product exhibits and panel discussions on new technology and marketing issues. Contact: CAP International at (617) 837-1341.

21-22 — **Datapro's Electonic Publishing: Strategies, Applications and Systems** (New York)
Two-day course aimed at corporate users on how to apply electronic publishing while boosting productivity and cutting costs. Contact: Datapro at (800) DATA-PRO.

21-23 — **CASES Computer-Aided Software Engineering Symposium** (Boston)
Conducted by Digital Consulting Inc., the conference will include a one-day review of the technology trends, characteristics, components and environment, and two days of presentations from developers of CASE products. Subjects will include the human factor, design automation and artificial intelligence. Contact: Digital Consulting Inc. at (617) 470-3880.

23-24 — **Ottawa Computer Office Technology Show** (Ottawa, Canada)
More than 60 exhibitors will show products covering microcomputer and peripherals technology aimed at business users. Demonstrations and seminars focused on desktop publishing. Contact: Fred West at (416) 252-7791.

29-Oct. 2 — **INFO '87** (New York)
The Information Management Exposition and Conference, with the theme of "Making Existing Information Systems More Productive," features three "focus" days: financial service companies, manufacturing companies, government agencies and departments. Conference includes workshops, full-day courses and 48 sessions. Contact: INFO '87 at (203) 964-8287.

30-Oct. 2 — **Apple Expo** (Paris)
This trade show will feature Apple Computer France and associated third-party developers. Roughly 70 exhibitors and 30,000 participants will attend. Contact: Jean-Claude Muratore at Apple Computer France (1) 69.28.01.39.

Send calendar events to: Clair Whitmer, MacWEEK Calendar, 525 Brannan St., San Francisco, Calif. 94107.

The Desktop Publishing Conference

A Seybold Seminar and Exposition

"The event of the year . . ."
You heard about last year's Seybold Conference. More than 100 new products were introduced, including Ventura Publisher and Aldus PC PageMaker. Steve Jobs declared that Hewlett-Packard was "brain damaged" for selecting the DDL page description language. IBM revealed its desktop publishing strategy. Users blasted vendors for not offering support. Everyone agreed they had not seen so much enthusiasm and excitement in years.

The 1987 Conference will be even better: a lot of new players in the market; a raft of exciting new products; serious work being done by serious users.

The seminar will explore the key issues in this rapidly changing field. Presentations by leading industry figures and pioneering users are followed up with tough questions from the Seybold staff and no-holds-barred discussion.

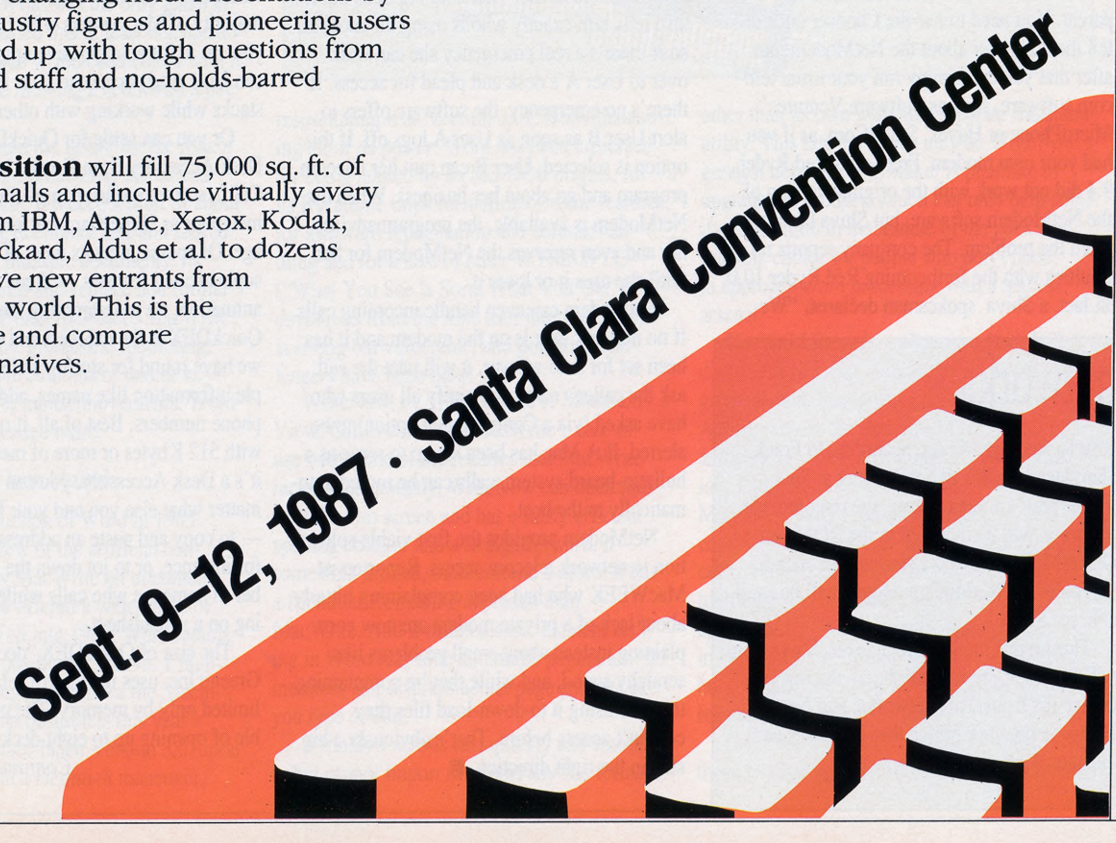
The exposition will fill 75,000 sq. ft. of exhibition halls and include virtually every vendor from IBM, Apple, Xerox, Kodak, Hewlett-Packard, Aldus et al. to dozens of innovative new entrants from all over the world. This is the place to see and compare all the alternatives.

September 9-12, 1987: the Seybold Desktop Publishing Conference in Santa Clara. Four days that will once again define an industry. You can't afford to miss it.

For registration information, contact:

Seybold Seminars
6922 Wildlife Road
Malibu, CA 90265
(213) 457-5850

Seminar: September 9-11, 1987. $595.
Exposition: September 10-12, 1987. $25.
Free to seminar participants.


Sept. 9–12, 1987 · Santa Clara Convention Center

SCULLEY

Continued from Page 1

"Odyssey" highlights Apple's mercurial 10-year history and glimpses into Apple's "new age" future. The book marks a turning point for Sculley, who contends he helped reinvent a corporation smothered under the weight of product and marketing mismanagement.

Indeed, Sculley's well-publicized power struggle with former friend Steve Jobs proves to be the central dramatic passage of the autobiographical story. Jobs, who recruited Sculley from Pepsi, is portrayed as an "impresario," a cocky young man and a friend, but ultimately a manager who lacked the "right stuff" to compete in an increasingly tough marketplace.

Ironically, co-founder Jobs held the vision that Apple's product development remain small and decentralized. Apparently, in reorganizing Apple into a streamlined money-maker, Sculley has reached the same conclusion with spinouts. The book doesn't specify what companies will be established, but the markets cited as examples are systems products, engineering and industrial training.

"We want to postpone the natural tendency for Apple to become institutionalized," Sculley writes. "By creating the federation, it can become the mother of invention without having to give up the small company values we pride."

The book comes on the heels of Apple's well-documented, though somewhat belated, journey to the corporate desktops of America. Long known as the personal computer company that moved from the garage to the Fortune 500 within five years, Apple hired Sculley to manage its corporate counterculture into maturity.

Sculley, 48, was lured from his job as Pepsi-Cola president to become CEO of Apple in March 1983. Money and a love of technology were the major factors in Sculley's decision to leave his $500,000-per-year job to come to Silicon Valley.

Sculley says Apple initially offered him $300,000 in salary and another $300,000 in bonus and options on 500,000 shares of Apple stock. "I didn't accept or reject the offer, but I was surprised at how low the actual salary was," Sculley says. Eventually, he accepted a revised offer of $1 million in annual pay, $1 million signing bonus and a home. He borrowed $3 million to buy stock.

The book, brimming with insights into Apple's long-range plans to win the hearts and minds of consumers worldwide, portrays the former Pepsi-Cola marketing whiz as America's visionary "third-wave" executive. Change and creativity are stressed in so-called third-wave companies, not adherence to corporate structure. Sculley says in comparison that IBM is a second-wave company built for growth with a "more-of-the-same attitude."

"Second-wave people are motivated by promotion, salary and bonuses," Sculley says. "Third-wave people are motivated by commitment to an ideology, by the chance to personally change the world, the chance to grow as a person."

If workers perform in exemplary fashion, they have a chance to win the company's Hero Award, which Sculley terms "the Apple equivalent of the country's Medal of Honor. It's a large and heavy brass medallion with a wide ribbon in Apple's rainbow logo colors."

Upon seeing the Mac for the first time, Sculley says, "It looked to me like a miniature version of a 1952 television set, a little, funny-looking box. I tried to seem enthusiastic, but it hardly overwhelmed me."

Sculley reveals that Apple Fellow Alan Kay criticized the original Mac, calling it "a Honda with a one-quart gas tank." Kay helped persuade Sculley that Mac users needed more power and open architecture. Eventually, Mac sales lagged, and Apple plunged into a crisis that led to layoffs, a record quarter loss of $17 million and plant closures.

Sculley says many friends and associates urged him to make the Mac IBM-compatible. That would have been "opportune in the short term but would have destroyed our advantage as an alternative technology — the basis of Apple's soul."

Sculley uses the book as a launching pad to position Apple's future.

"A future generation Macintosh, which we should have early in the 21st Century, might well be a wonderful fantasy machine called the Knowledge Navigator, a discoverer of worlds, a tool as galvanizing as the printing press," Sculley writes. "Individuals could use it to drive through libraries, museums, databases, or institutional archives."

The technology to produce the user-interactive Knowledge Navigator would require some quantum leaps in research and development in areas such as artificial intelligence and optical-disk technology.

"That's where we're headed with technology — toward mass personalized knowledge systems with transparent technology," Sculley says. He quotes futurist Alvin Toffler, who says we are moving from a mass-production to a mass-customization society.

According to the book, planning for the future is constantly on Sculley's mind.

"We ask ourselves: What will the year 1992 be like?" says Sculley. Later, he adds, "More than anything, we believe the best way to predict the future is to invent it." ■

HYPERCARD

Continued from Page 1

an industry standard for programs of this type. Mac users who don't get the program free can pay $49 for HyperCard or $199 for Owl's Guide. Zoomracks, at $119, is IBM PC and Atari-based.

Ironically, Apple's decision to position HyperCard as a hypertext product has given competitors the opportunity to claim they were first. As a result, HyperCard's pedigree may have been lost in the final shuffle.

In Danny Goodman's book, "The Complete HyperCard Handbook," Atkinson cites the failed Magic Slate portable-Mac project as the basis of the HyperCard technology.

However, the foreword to Goodman's book by Apple CEO John Sculley cites hypertext as the basis of HyperCard. More confusing: Whoever wrote the HyperCard brochure for Apple credited a member of Franklin D. Roosevelt's administration with the idea.

In fact, Owl International President Alan Boyd is quick to point out that Vannevar Bush, Roosevelt's science adviser, appears in literature for HyperCard and Guide. Bush, noting that man's memory tends to work by association, wanted a machine called a "memex" that would store and link bits of information.

"There were a lot of roots to it," Atkinson told Goodman in his book. "One of the early contributors was the Magic Slate project that I worked on for a while, but that was later canceled. Magic Slate was a laptop computer that had a full-page display and an all-graphical interface. We worked out some neat paradigms for breaking down the barriers to applications."

But where did the idea for having a "metaphor" of stacks of cards, with buttons to link the cards and stacks, come from? Atkinson's Rolodex used address cards in stacks just like HyperCard. HyperCard's twist on the idea includes an icon, or picture, of a telephone. One click, and your modem dials the phone number on the card.

That nifty feature comes from the language upon which HyperCard is scripted: HyperTalk. Its author, Apple's Dan Winkler, explains that HyperCard owes a debt to object-oriented programming, including SmallTalk, which is licensed by Apple from ParcPlace Systems of Palo Alto, Calif. HyperTalk, which allows a user to write progamming scripts in English, also utilizes objects like onscreen buttons.

Winkler, who worked closely with Atkinson developing HyperCard, said HyperCard "was mainly grown in house. It grew because it was being used by many people [at Apple] internally." He said MacPaint is also part of HyperCard, plus quick-file Rolodex programs. "It does have some ideas from Magic Slate, but no relation to Notecards. HyperCard was frozen by the time we had a look at Notecards," Winkler said.

"My personal opinion is that when Apple saw what it had and looked at things from a marketing point of view," said Zoomracks author Paul Heckel, "it decided to present this as a hypertext product. The card and stack metaphor is such a powerful metaphor that it can support things like hypertext. But [with] hypertext like Owl's Guide, you wouldn't think of putting your phone numbers on it."

Boyd, who worked for Microsoft Corp. in the CD-ROM division, said hypertext was the basis for the highly functional, quick-search interface needed to make CD-ROM a viable market. He credits Ted Nelson with inventing hypertext, a term for nonsequential writing and storing information by association, in the '60s.

"Guide was the first product to create a bridge between hierarchical structured information and random associative links," Boyd said. "HyperCard was second."

"If there's some similarities, it's coincidence," Winkler said. "We feel the card metaphor provides a lot of power and simplicity." ■

SCANNER

Continued from Page 1

gray-scale capability, unlike the HP software, Scanworks, that does not support multiple bits per pixel.

Because the HP scanner was originally developed for the PC world, its interface kit includes a separate black box SCSI port.

"HP's black box SCSI solution is an afterthought," said Jim Cavouto, editor of the MicroPublishing Report of Torrance, Calif.

"Apple will want to offer an internal SCSI interface. The HP black box sits between the Mac and the scanner, making it an awkward configuration for a 'desktop' scanner."

> "I expect Apple's flatbed scanner to fly very well. You'll see corporate users and many small businesses interested in this kind of system."
>
> FRANK GONZALEZ
> Leasametric.

In order to compete aggressively with vendors such as HP, based in Cupertino, Calif., and Microtek Lab of Gardena, Calif., in the mid-range scanner market, "Apple will have to demonstrate its scanner with the internal SCSI port and high-performance software that supports gray scale," said John Bolt, senior analyst with Dataquest of San Jose, Calif.

Analysts say that the scanner should also import Encapsulated PostScript files (EPSF) in order to be a competitive system.

More than 25,600 scanners for publishing applications will ship by the end of the year, according to a report from CAP International of Marshfield, Mass., and will exceed 107,400 by 1989.

"Apple is jumping on the scanner bandwagon to round out its publishing offering. Instead of relying on third parties, now Apple will provide its own complete hardware solution for desktop publishers," said Julie Desrosiers, a marketing analyst at CAP.

The Apple label will bolster sales of the scanner, according to a number of analysts, including Bolt of Dataquest and Frank Gonzalez, marketing and sales manager of Leasametric, a national Apple dealer based in Fremont, Calif.

"I expect Apple's flatbed scanner to fly very well. You'll see corporate users and many, many small businesses interested in this kind of system," said Gonzalez.

"This scanner will hit hard at the HP ScanJet. Many corporations will buy the Apple desktop-publishing solution rather than buying the Mac and the LaserWriter and a scanner from a third party. I expect Apple will do well with this," he said. ■

MAC THE KNIFE

The Knife couldn't wait to run down to the local Southland 7-11 store to pick up the September Playboy featuring an interview with John Sculley. From the interview, we learn that one day we'll all have computers in our clothes. Sorta gives a new meaning to downtime, doesn't it?

Mac was also amazed to learn that the interviewer was none other than "HyperCard Handbook" author Danny Goodman, bioed by Playboy as a "veteran gadgeteer."

For the record, the Knife has been able to learn the interview schedule for the next couple of months. October: Tammy interviews Jim; November: Paul Laxalt interviews Ronald Reagan; December (bonus Christmas issue): Sean Penn interviews Madonna. With journalism like this a few years ago, Jody Powell would have interviewed Jimmy Carter and we'd never have known about lust, in the heart or elsewhere …

The skies over Cupertino are filled with trial balloons — products you may or may not see, with code names that may or may not be real. It's just Apple's way of trying to stem leaks and keeping you from knowing what they're up to.

Example: Is Apple's low-end laser coded Solo or Carmel? It depends on what balloon is flying. Whichever it is, Apple is known to be watching the public reaction to GCC's Personal LaserPrinter very closely. If it's a hit (and it looks like it will be) you can expect the delayed Apple printer out by '88 …

Meanwhile, printing will never be the same after next week's Seybold Conference.

Merganthaler will be demonstrating Atlas boards that will significantly speed up PostScript processing. And the PostScript clones will be represented there, too, including Conographic's ConoScript board.

Also on the Seybold typesetting front, you can expect to see a demo of Varityper's competitor to the Linotronic 300. The big selling point for the new Varityper will be price: roughly half the asking $60,000 for the Linotronic 300 …

HyperCard: Rubik's Cube of the future?

A quick tour of the electronic services shows that stacks are coming a little slower than you would have believed from listening to the hype at last month's introduction. You don't find many in the HyperCard SIGs, just a list of bug reports that's sure to grow longer.

Safe Stacks: Some of the stacks you do find are downright boring — for example, a Home Card with preset user preference levels. The Knife says someone needs to publish some HyperCard guidelines. Proposed Guideline Number 1: This is the '80s, boys and girls. Your Home Card is a very personal thing because that's where your user preferences are. Don't share yours with anyone and don't use anyone else's. Remember, when you use somebody else's Home Card, you're using the Home Card of everyone they've shared their Home Card with for the last 10 years. …

People have been a little worried about a mail-order outfit that's been the brunt of some disturbing rumors lately. But everyone, including the vendors involved, can rest easier now that recent events have resulted in a fresh infusion of cash. All is solvent …

Just when you thought it was safe to buy a spreadsheet again, there's more news on the calc war front. OK, OK, so a new spreadsheet going up against Excel is more like a flea attempting to bring down the Lord of the Jungle, but there are some pretty ambitious fleas out there. Remember Crunch? It's coming back. It's fast, it's ultra enhanced. It has a new home. Coming soon (just a few hundred hours or so) to a retailer near you …

A very big club indeed: Copy protection is finally off those lovely Adobe fonts that we're all so addicted to, and not a moment too soon. But isn't it peculiar that they only came off when IBM asked, not when Apple asked? Perhaps Adobe saw the handwriting on the wall when IBM omitted any page-description announcements from the new microchannel PS/2. Call it insurance …

The Harvard Business School is rumored to be abandoning DOS in favor of the Mac as the recognized standard for the Future MBAs of America. No wonder Lotus is giving the Mac market another go.

Finally, Apple has just released Chinese Macs in two flavors, one for Taiwan and one for the Mainland, but there seems to be a big problem. Only about 75 percent of the characters are accurate, so be careful if you're writing to any heads of state, or your's might be in jeopardy.

***

Remember any Knife moves? This MacWEEK mug's for you. Call me at (415) 882-7370 or MCI (MactheKnife). I'll be waiting. ■

NOW AVAILABLE! THE MACINTOSH SE AND MACINTOSH II

Our Apples are Cherry.

A sweet deal makes anything better. And that's what makes our Apples so cherry. You get two ways to bring Macintosh Plus and LaserWriter Plus back to the office.

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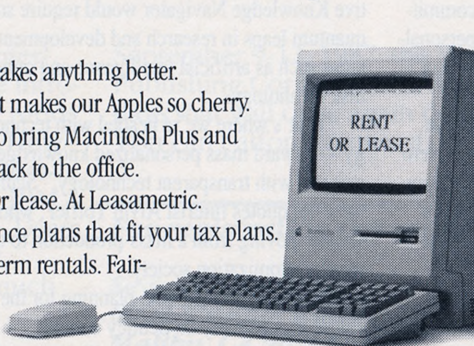
So don't wait. Get a sweet deal on Macintosh Plus and LaserWriter Plus. From Leasametric, where you can rent or lease. Which makes even Apple a lot more appetizing.



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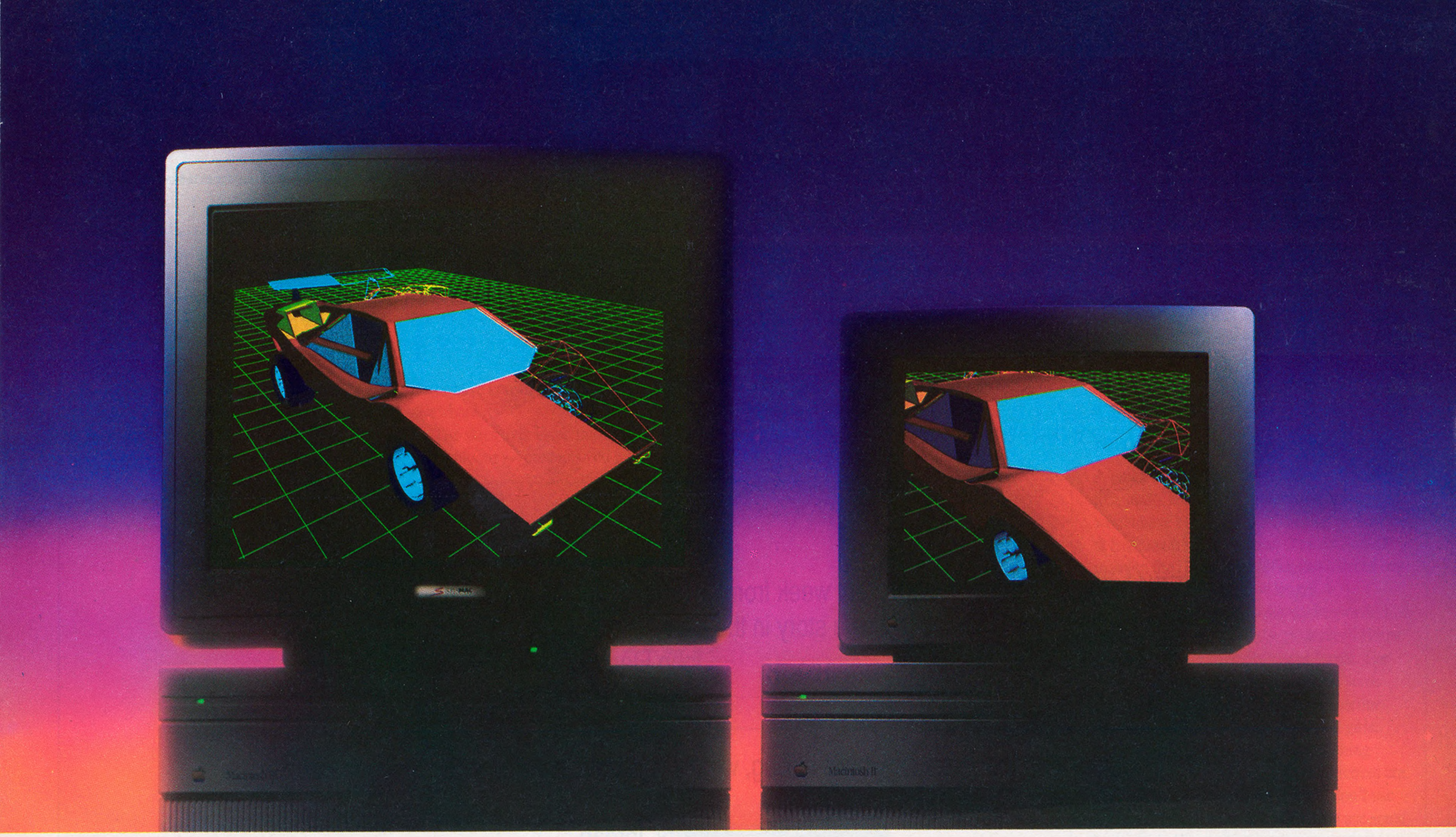

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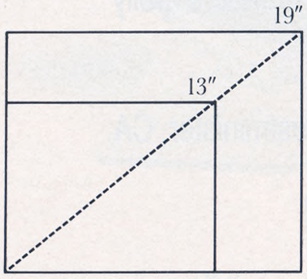

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